DOCUMENT RESUME

ED 426 300 CE 078 635

TITLE	JobLink. Demonstrating New Systems and Training Modules for Effective Literacy Learning. Final Report and Evaluation.
INSTITUTION	Coast Community Coll. District, Costa Mesa, CA.
SPONS AGENCY	Office of Vocational and Adult Education (ED), Washington, DC. National Workplace Literacy Program.
PUB DATE	1998-00-00
NOTE	472p.; For "JobLink" final report and the ten related instruction manuals, see CE 078 635-645.
CONTRACT	V198A40150
PUB TYPE	Reports - Descriptive (141) -- Reports - Evaluative (142)
EDRS PRICE	MF01/PC19 Plus Postage.
DESCRIPTORS	Adult Basic Education; Adult Literacy; Adult Students; Computer Assisted Instruction; *Distance Education; Educational Needs; Internet; *Job Skills; Laboratories; Literacy Education; *Multimedia Instruction; *On the Job Training; Supervisors; *Workplace Literacy

ABSTRACT

This report describes the JobLink workplace literacy program conducted for employees of nine companies in Costa Mesa, California. The introduction provides background and describes the problem: one-third of the 2,870 workers had inadequate language and literacy skills. The next six chapters describe the problem, solutions, tasks, challenges, and discoveries related to these topics: (1) developing and delivering multimedia and Internet-based literacy instruction to working adults; (2) supporting companies' changes and improvements through worksite training; (3) involving supervisors in training programs; (4) measuring return on investment; (5) disseminating project results; and (6) continuing training after the project ends. The last chapter evaluates project results, reporting the following: 881 employees from the original nine plus an additional company were trained; students working in the multimodal lab showed more reading comprehension improvement than worksite students; lab, worksite, and distance education students showed significant differences in self-improvement; those who persisted (more than 100 study hours) showed the greatest improvements. The following conclusions are reported: multimedia materials provide literacy students an enhanced, self-paced environment; supervisor knowledge and support of training increases employee persistence and retention; and companies that established computerized learning centers on site have built an infrastructure for continued learning. Appendices contain the following: results of job analysis interviews; additional job analysis; distance learning pilot project; distance learning orientation module; worksite module sample activities; learner enrollment and assessment forms; student newsletters; newsletter for managers; and worksite module program brochures. (SK)

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JobLink

Demonstrating New Systems and Training Modules For Effective Literacy Learning

Funded by
U.S. Department of Education
National Workplace Literacy Partners Program
1995-1998
Award Number V198A40150

FINAL REPORT AND EVALUATION

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INTRODUCTION

The Problem

Orange County, California has an economic environment in which workers with limited basic skills face enormous barriers. As the manufacturing base in the county underwent a transition from defense to commercially oriented, many workers found themselves displaced from jobs that disappeared and were replaced with jobs requiring high skills and literacy requirements. These workers had no chance of making the transition to new production jobs because of their limited literacy skills.

The State of California:

- Has the largest labor force of any state in the United States, with 14.7 million people in the workforce in 1990.
- Has a graduation rate of 67.8 percent, ranking 42nd in the nation.
- Has an economy driven by the manufacturing sector, which was the third largest sector with 1.8 million employees and 15% of total employment in 1993.
- Absorbed 55% or 1.6 million of all amnesty applicants in the U.S. in 1990-1993.

Here in Orange County:

- Manufacturing makes up 19.0% of Orange County's total employment as compared with 16.2% nationally.
- Between 1990 - 1994 the county lost 65,000 jobs, 5.5% of its 1990 employment.
- In manufacturing, 31,700 jobs (or 13.0%) were lost between 1990 - 1994.

- Low-cost manufacturing in the county (with low skill jobs) is being replaced by high value added (high production skills) growth manufacturing.
- Forty-seven languages are spoken in Orange County schools from Spanish to Arabic.
- While the number of limited-English proficient students in California jumped 76 percent between 1990 - 1994, Orange County increased by 109 percent.
- Santa Ana had the lowest 1991 graduation rate in the nation at 36.7%.

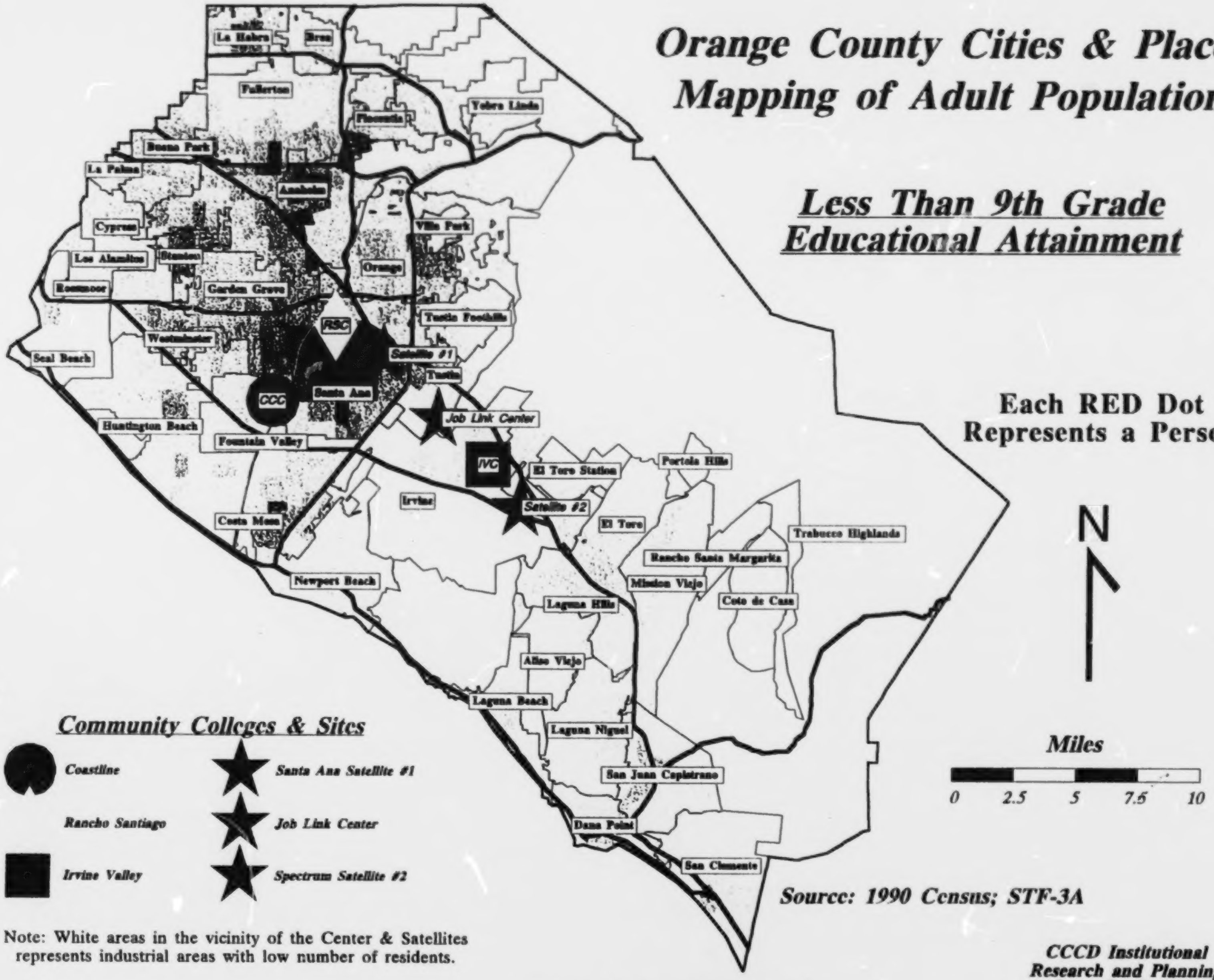
Population projections for the county at the turn of the century are 53% white, 2% Black, 31% Hispanic, 13% Asian, and 1% other. (County of Orange projections). Orange County community college data indicates that ethnic minority students are enrolling in increasing numbers but few transfer to four year colleges. Basic mathematics and English as a Second Language classes are first to fill and close at local colleges. The map on the following page illustrates Orange County's educational gap.

Against this Orange County backdrop the JobLink partnership was formed. Nine local companies' trainers and employees met with college representatives in series of "Focus Group" meetings. Company employees in attendance included frontline supervisors, top-level management, trainers, and production workers. The Focus Group meetings resulted in the development of a proposal which was submitted for funding and resulted in the three year grant from the U.S. Department of Education National Workplace Literacy Partners program which funded the JobLink project.

Orange County Cities & Places Mapping of Adult Population

Less Than 9th Grade Educational Attainment

Each RED Dot Represents a Person



Source: 1990 Census; STF-3A

Note: White areas in the vicinity of the Center & Satellites represents industrial areas with low number of residents.

CCCD Institutional
Research and Planning
Jorge R. Sanchez

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LITERACY DEMOGRAPHICS OF JOBLINK BUSINESS PARTNERS

				Ethnicity				
Company	***Size of Workforce***	***Need Basic Skills***	***LEP***	***White***	***Black***	***Hispanic***	***Asian***	***Other***
Company A	*120*	*20%*	*20%*	*50%*	*1%*	*25%*	*24%*	*0%*
Company B	*375*	*40%*	*35%*	*21%*	*0*	*29%*	*50%*	*0*
Company C	*300*	*20%*	*9%*	*69%*	*1%*	*16%*	*13%*	*1%*
Company D	*215*	*45%*	*45%*	*43%*	*2%*	*7%*	*47%*	*0*
Company E	*880*	*60%*	*30%*	*60%*	*2%*	*28%*	*9%*	*1%*
Company F	*447*	*20%*	*20%*	*58%*	*2%*	*12%*	*27%*	*1%*
Company G	*96*	*30%*	*15%*	*54%*	*2%*	*34%*	*9%*	*0*
Company H	*209*	*30%*	*30%*	*42%*	*2%*	*20%*	*34%*	*1%*
Company I	*228*	*30%*	*30%*	*53%*	*3%*	*18%*	*25%*	*1%*
Totals/Averages	*2,870*	*32.8%*	*26%*	*50%*	*1.6%*	*21%*	*26.4%*	*.5%*

Source: Survey of workplace literacy business partners.

Partner companies have asked that their statistics be kept confidential for the protection of their employees. These statistics and others in the proposal were gathered from official company reports and documentation. The BusinessLink office has verified the accuracy of statistics with each partner representative and can document the actual company names for all statistic and quotes on this report.

When the training directors from these nine Orange County manufacturing companies met with representatives from three local community colleges, the first point of discussion revolved around a question posed by Julie Holder of Printronix Corporation. ***"If our workers can read better at the end of their vocational ESL classes, but I can't show that they are doing their jobs better, how will I ever convince my top management that basic skills are important to staying competitive?"*** The other training directors echoed Ms. Holder's question and together with the college representatives and employees from their nine companies they created a plan for a model basic skills training program to produce measurable results for employees and employers.

At the time, one-third of the 2,870 employees who work for the JobLink partner companies had inadequate language and literacy skills for their jobs. Many of them were long-term employees who had used an informal network to survive in their jobs for years. With the **onset of total quality management, self-directed work teams, and companies required to achieve ISO 9000 registration**, these employees did not have the ability to participate in an empowered workplace or benefit from cross-training that was required as their jobs change. Their current **jobs were in danger** without improved basic skills, and they had no opportunity for job advancement or for finding lower skill jobs to replace their current jobs if they were laid-off.

Of the partner companies:

- 90% were establishing self-directed work teams. Workers needed good interpersonal, negotiating, problem solving and critical thinking skills to participate in these teams.

- 90% were initiating advanced technology to streamline production. New machinery in manufacturing was being used to reduce product cycle time and improve quality.

- 60% were initiating Statistical Process Control (SPC) to ensure that products meet customer specification. Successful participation in SPC training and use of its tools requires a solid knowledge of math skills; including computing an average of about three numbers; rounding off according to an established guideline, and plotting points on a line graph.

- 60% were adapting to computerization. Employees needed to learn computerized ordering systems and how to use the keyboard for data entry. Related to computer use were the communications methods being implemented such as CC-mail and E-mail. Employees needed to learn how to use these internal computer connections and write memos for effective communication.

Five of the nine partner companies had already invested heavily in basic skills training for their employees. Although they were pleased with the results, the programs did not provide hard data that could link good basic skills to increased success on the job. As Wendi Fast of 3M Dental Products Division put is, ***"The leap from the classroom to the production floor was just too great."*** Furthermore, at the end of the intensive training programs, the companies felt that employees lost some of the progress they had made because they had no continuing skills improvement opportunities. Employees agreed and pointed out that they were eager for education and ready to participate in programs at work or on their own time. Everyone agreed that a program was needed that was highly contextual, tying instruction directly to employees' jobs.

The partners reported that if they were rehiring their workforce (starting from scratch) they would not hire 1/3 of the employees in their current workforce because of inadequate basic skills. However, because of their commitment to retain current employees AND meet the challenges of a changing economy, the partners came together in the JobLink project to create a system to bring employees' literacy skills to the level necessary to ensure their current success and future promotions, along with the success of their employer companies.

Both trainers and employees who participated in planning the JobLink project reported that low basic skills and communications levels affected workers' ability to be promoted within companies and to keep up with the changes in their jobs. **For example:**

1. In an attempt to keep their workforce flexible and capable of being cross-trained to meet changing production requirements, **Company F** required workers to be able to demonstrate a set level of **math and reading proficiency in order to get promotions**. At the beginning of the project over 50 workers in this company did not meet the minimum basic skills requirements for their current jobs, let alone for promotions they might seek. As new technologies are brought to the manufacturing floor, jobs are reanalyzed and skill requirements are adjusted, so workers face a continuing need to upgrade skills.

2. **Company G** instituted **statistical process control** to improve productivity on its manufacturing floor. Employees who were unable to participate in SPC were told they would eventually face termination or demotion.

3. New employees at **Company F and Company H** were required to take a **basic skills test** as part of their application process. The reading levels required by these tests were between 6.0 and 8.0 grade levels. Company representatives reported that the levels of these tests are continually rising.

4. **Company I** reported a situation which was common to many of the partners. An assembler who had been **promoted** to quality inspector was having problems with his new job because of the large amount of reading material required by the inspection position. With the demise of many mid-level positions in partner companies, employees who want promotions are faced with a large leap from their current position to a higher position. In the past, small incremental steps were available to employees on their way up the ladder…that is no longer true.

Employees who participated in the planning of JobLink reported the following items as the most significant barriers to workers' ability to participate in and benefit from training programs.

BARRIER: Transportation.

Employees reported that they often depend on others in carpools for their transportation. This is a fact of life in Orange County, where the Air Quality Management District has mandated carpools and requires employers to create aggressive ride sharing programs. This situation, coupled with a poorly developed public transportation system in the County, creates a situation that makes it difficult for many employees to participate in after hours programs far from work or home.

BARRIER: Child Care.

Employees are often needed at home immediately after work to relieve other family members of child care responsibilities so those family members can go to their own jobs. Workers who use formal child care may not be able to afford the additional child care time so the workers can to go an after work Lab.

BARRIER: Family Problems..

The worker is often the most responsible member of the family unit. Others depend upon the worker for transportation, for assistance in daily matters like doctors appointments, for adult day care, and help with family emergencies. Employees who assisted with the project planning reported that they and their fellow employees have highly complicated family lives and they must be at home to provide leadership and stability. Furthermore, other family members do not understand the value of training or education and do not support the employee staying after work for training.

BARRIER: Supervisor Resistance.

Employees and trainers reported resistance on the part of the supervisors to employee training programs. This resistance was suspected to be a result of several factors:

- The supervisors are under pressure to meet production deadlines and don't want employees off the floor.
- Supervisors feel the training is unimportant, ineffective, or not on the right topics.

- Supervisors may fear that employees will learn things they, the supervisors, do not know and will ask questions the supervisors cannot answer.

BARRIER: Employees do not see the value of training in their professional lives or to their careers.

Workers reported that often employees will not participate in after-work training programs because they do not see "what's in it for them." One worker said, ***"I can get my paycheck whether or not I go to training, so why bother?"*** Even worksite training programs were seen to be ineffective when employees did not understand the reasons for the training or were only attending because it was a requirement.

In response to this set of problems and concerns, the JobLink partnership was initiated in the Fall of 1993. Nine manufacturing companies and three community colleges (from three different community college districts) came together to discuss their common challenges and design a program that responded to the needs of both worker and company.

Over a nine month period, meetings and work sessions were held that included company trainers and human resource directors, workers who needed literacy training, community economic development leaders, and customized training directors from the community colleges. The program that was designed centered on these six objectives and a set of tasks designed to implement each objective:

JobLink Program Objectives and Tasks

Objective 1:
Improve workers' job performance, security, and opportunities for advancement by designing and delivering an adult literacy program to 600 workers in a contextual learning lab that ties literacy learning to improved job performance.

- Task 1: Conduct job analyses of current and future positions held by workers in partner companies to provide the basis and materials for development of job-linked training modules for the contextual lab.
- Task 2: Develop 14 training modules for the JobLink lab using the best of what is known about adult learning and the use of technology-assisted instruction to design modules that will enhance the progress of the literacy student.
- Task 3: Serve 200 students per year in the JobLink lab and its satellite lab.
- Task 4: Design and field-test with 100 students an Internet-based distance learning program for workplace literacy students.

Objective 2:
Improve success of manufacturing companies in adopting changes to improve productivity by designing and deliversing worksite training modules that support organizational changes such as total quality management, world class manufacturing, good manufacturing practices, and ISO 9000 certification.

- Task 1: Create 12 work site literacy training modules that relate improved literacy skills to the changes occurring in companies.
- Task 2: Deliver 20 work site modules per month, for five months of Year 1 and 10 months in Years 2 and 3, to partner companies and other companies on request.

Objective 3:
Increase employee success in literacy training by improving organizational support and motivation for trainees, resulting in an average retention rate of 75% in voluntary programs.

- Task 1: Involve an average of two supervisors from each partner company in planning training modules, employee reward and recognition programs, and reinforcing training on-the-job.
- Task 2: Special workshops for supervisors will be designed to improve their ability to work effectively with employees who are in literacy training.
- Task 3: Establish a two-way communication link between supervisors and instructors at the JobLink lab.
- Task 4: Develop award and recognition program for participants in the JobLink lab.

Objective 4: Improve overall effectiveness of literacy training by tieing programs to bottom line measures in companies developing a system for measuring Return On Investment (ROI) on basic skills and literacy training. Help students see and track their personal ROI for training.	• Task 1: Integrate ROI into every aspect of this project. • Task 2: Calculate the ROI for individual students who participate in the project.
Objective 5: Improve literacy training available in workplaces across the country by making the products and processes that aredeveloped in this grant project available to companies and colleges throughout the country.	• Task 1: Replicate the JobLink Lab to test the applicability of the system and training products to other sites. • Task 2: Disseminate project model and products widely at state and national conferences.
Objective 6: Improve retention of worker learning and assure continued employee literacy learning by introducing programs and activities into companies that will create a literate environment where continuous learning becomes a way of life for everyone.	• Task 1: Establish a JobLink library at each partner site. • Task 2: Establish hotline network, linking employees to instructors and/or coaches who can assist them with literacy-related problems and needs. • Task 3: Establish a computer network loop for everyone involved in this project. • Task 4: Partner companies will establish a series of clubs and activities that will encourage continued lifelong learning. • Task 5: Provide a smooth transition to college classes for those studetns who are interested and ready.

The JobLink project followed these objectives closely and accomplished all of the goals reflected in them. In the course of completing the objectives, an unexpected direction emerged and became the most notable outcome of the project. That direction was the use of the Internet to deliver instruction to workplace literacy students.

The JobLink Distance Learning System, which currently exists as two courses known as Just-In-Time English and Just-In-Time Communication, was built and field-tested with almost 100 employees in 11 companies. Students were able to use this system and make skill improvements comparable to those made by students in the JobLink computerized learning labs. The Distance Learning system was convenient and students completed the 48-hour training programs on their own time. All participating companies provided computers and Internet connections for students and many students also worked from home.

Moving from the more traditional learning lab and classroom training approaches to an Internet-based program was a big step—and one that many literacy professionals would not have expected to be successful. The success and persistence of the distance learning students speaks for itself, encourages us to continue to develop systems that capitalize on new technologies, and challenges us to find and develop more effective ways of serving our workplace literacy students and their companies.

Regarding Program Statistics and Project Evaluation

At the beginning of the JobLink project, an effort was launched by the Department of Education to do a national evaluation of all National Workplace Literacy Partners Projects. This effort was titled the National Workplace Literacy Survey (NWLIS) and it was a mandatory program for all projects receiving funding through the National Workplace Partners Literacy Program. The NWLIS program was designed and implemented by an outside contractor, Mathematica.

As a result of this requirement to participate in NWLIS, we were given enrollment, evaluation, and data collection forms with set data fields already in place. Copies of these forms can be found in Appendix F.

There were two consequences of the NWLIS requirements that significantly affected the nature and amount of data available for evaluation of this project. First, completing the forms was time consuming for students and sometimes created a paperwork barrier at the beginning of training programs (especially voluntary training programs.) In order to minimize these types of barriers, instructors and staff agreed not to add questions or surveys of our own to those required by NWLIS. This limited us to the data gathered on the NWLIS forms.

Second, the initial NWLIS system was set to automatically process data at a central location. We entered data here and shipped it to Mathematica, where it was processed. Thus, we lost the ability to process or study our own data. When NWLIS ended, we had to reconstruct as much of the data as possible. This made it very difficult to do any longitudinal studies of students or to compare data like the standardized test scores of students with other data, such as their self-assessments.

In retrospect we might choose some very different ways of evaluating the JobLink students. In fact, that is not a choice that we have at this point in time. Our external evaluator will comment further on the limitations imposed on our evaluation by the NWLIS structure and the requirements that we participate in Mathematica's evaluation.

CHAPTER 1

Developing and Delivering Multimedia and Internet-based Literacy Instruction to Working Adult Students

Problem

The JobLink partner companies were typical of Orange County manufacturers and many other companies across the country. Among the workers employed at the JobLink partner companies in 1994, 20%-60% needed basic skills for their current jobs or to prepare them for the changing needs of their companies. The large numbers of Asian and Hispanic workers in these companies pointed out the need for English as a Second Language (ESL) training as well as other literacy training.

Needs identified by employees, business partners, and colleges:

- **Employees reported** in the focus meetings that limited-English speaking workers can not read procedures and documentation, are in danger since they cannot read safety signs, cannot communicate with customers, and make errors because of miscommunication and misunderstanding.
- **Supervisors noted** that the productivity of their skilled workers is limited when they spend large amounts of time assisting other employees who cannot read or perform routine math functions such as filling out a time card. This reflects the informal network often used by limited-English speaking employees to get assistance with reading and writing tasks required by their jobs. When workers are rearranged in work cells, they often lose their informal network and are unable to communicate with coworkers and/or use the basic literacy skills needed to get the job done.
- **Trainers indicated** that their companies have created verbal cultures where everything is done orally since workers have problems reading. Companies with verbal cultures have a difficult time adapting to changing requirements such as focus factories where workers are cross-trained to perform more than one job and become more dependent on written documentation.

- **Business partners said** that workers' chances for promotion decreased because job interviews are held in English. They said that their companies encourage workers to speak English but often don't expect it.
- Many of the **workers indicated** that there can be a stigma associated with needing literacy training and that confidentiality, ownership, anonymity, and flexibility in scheduling were very important factors in attending classes.

The workers' number one request was for a learning environment that felt welcoming. They also suggested:

- ample time for practicing lessons
- self-assessment methods for monitoring their own progress
- enough classroom space to learn
- networking opportunities with fellow workers, instructors, and supervisors
- short, in-depth, focused training with follow-up practice sessions
- one-on-one instruction or tutoring
- materials and devices that could be loaned for practicing skills training at home
- a learning kiosk on the production floor with hotline hook-up for immediate literacy training on the job, and
- opportunities for family members to join in the training.

Solutions

OBJECTIVE 1.

Improve workers' job performance, security, and opportunities for advancement by designing and delivering an adult literacy program to 600 workers in a contextual learning lab that ties literacy to improved job performance – The JobLink Lab.

Task #1 Job Analyses – Produce Eleven Job Analyses to Use as the Basis for Contextual Curricula.

During the first year of the project, seven job analyses were conducted as the basis for the development of Lab materials and worksite modules. The job analyses were performed to Department of Labor standards and included a literacy audit that focused on both current and future literacy requirements of the jobs. They also identified factors for each job that can be used to document Return On Investment (ROI) for employee improvements made at that job. During the analysis, materials were gathered for use in developing contextual curricula. The manufacturing jobs that were profiled included:

- warehouse worker
- mechanical assembler
- machinist
- supervisor
- machine operator
- electronics assembler
- test technician

These job analyses can be found in Appendix A of this report.

The Year 2 plan included four job analyses of "jobs of the future." These analyses would allow us to help students prepare for the many changes that they will face in the future workplace. In reality however, JobLink students were having enough trouble preparing for their current jobs. It was difficult justifying the use of resources on materials to prepare students for jobs that they might never hold unless they first were successful in their current jobs!

Instead of analyzing jobs of the future as originally planned, during Year 2 we completed two more analyses of jobs that were common among our partners. These jobs were Driver and Sorter, the latter being an entry-level position at a recycling company that is a JobLink site. These analyses gave us new material to continue to design contextual learning experiences for JobLink students and opened the door for important discussions with their company about why workers in these jobs tend to leave the company as soon as they have learned some English.

To satisfy the need to understand jobs of the future and how the world of work will change for JobLink's students, the partners provided two pieces of pertinent information.

- First, one of our partners (Steelcase) completed and shared the job analysis of an advanced machine operation position (Double-end Tenoner) that is typical of manufacturing positions of the future. This provided valuable information for our designers and lab instructors.
- Second, The U.S. Department of Labor Employment and Training Administration issued Skills Standards and Certification for the Manufacturing Specialist position. This position closely mirrors the manufacturing associate position and provided valuable information about the team issues as well as the technical skills that will be required of these positions. *With the approval of our program officer, these two items were used in place of the tenth and eleventh job analyses originally planned in the proposal.* The Double-end Tenoner job analysis and U.S. Department of Labor Skill Standards can be found in Appendix B.

Challenges & Discoveries

Completing a job analysis is a team effort that requires true partnership between the company and the job analyst. In order to be objective, it is usually best if the analyst comes from outside the company. The most difficult part of the process was getting companies to share documentation and other materials that could be used in the design of contextual materials that might be used in other companies. Most of the partners were not willing to release current or recent documentation for this purpose. *This pointed out a potentially expensive dilemma: The need to design truly contextual curricula individually for each company that wants training.*

This sort of customization is expensive and few companies are willing and/or able to support these expenses.

The JobLink job analyses were designed to cut across many types of manufacturing companies. This required generalizing the analyses somewhat, but not so much that they became useless to any individual company. The results of the analyses were useful in the design of both lab and worksite training materials. Even more valuable, however, was the process of completing the analyses. A team of JobLink instructors and designers assisted the job analyst and participated in the interviews and observations that make up the job analysis process. All who participated felt they gained an understanding of the JobLink students and the problems and challenges they face.

Results

The job analyses that were completed are available (See Appendix A and B) for the use of other programs and projects that serve the manufacturing community.

Task #2 Design Contextual Training Modules for Use in the JobLink Lab.

Sixteen interactive multimedia CD-ROM lessons and five sets of interactive exercises ("Practice Questions") were produced. Each of these audio-intensive segments requires about thirty minutes of a worker's time at the computer; however, additional practice desired by the user could increase the time required. The multimedia segments which combine text, graphics, animation, video, and audio are enhanced and supported by off-line print materials designed as individual paper-and-pencil, paired, group, and writing activities. In addition, a worker's daily lab experience is designed to include journal writing and sustained silent reading for a total lab time of 2-3 hours.

Curricular objectives were derived from job analyses involving jobsite observations and interviews of both workers and their supervisors. These analyses were completed for seven job categories that the JobLink nine partner companies have in common. A lab student/worker identifies her/his job category when accessing special practice sessions designed for the multimedia lessons. The content is thus individualized to each job category. Not only can the worker see how the content applies to her/his own job but also to other jobs within the company.

Because the JobLink worker population consists primarily of second-language learners with limited literacy skills, both multimedia content and print materials have been targeted at a fourth-grade reading level. This set our material apart from many other computer-based programs targeted at higher level students. It also proved to be a challenge for designers!

Included in the job analyses preceding the content development were questions about how supervisors perceived future job changes. Based on supervisors' perceptions, analysts then compared future requisite job skills with those currently needed for each job category so that curriculum designers could reflect both sets of skills in the learning objectives that drive the curriculum. Content topics reflecting these skills were then developed for both multimedia presentation and off-line activity print materials. The litmus test for each curriculum topic was: Is this skill objective needed for the job as it is currently structured or will it be needed for that job's future?

The Literate Worker CD-ROM Contents

Introduction

- Learning Styles Inventory
- Using a Glossary

Reading

- Context Clues
- Words at Work
- Finding Information
- Main Point
- Data and Details
- Following Directions
- Sequencing
- Using All the Tools

Writing at Work

- Strategies for Writing
- Filling out Forms
- Making Lists and Notes
- Writing Memos and Suggestions
- Writing Log and Journal Entries

Numbers and Measurement

- Reading and Interpreting Data
- Copying and Comparing Numbers
- Converting Units of Measurement
- Ratio and Volume

Practice Questions to Accompany Reading Lessons

- Context Clues
- Words at Work
- Finding Information
- Main Point
- Data and Details
- Following Directions
- Sequencing
- Using All the Tools

Challenges

Producing CD-ROM based materials with faculty and staff who were inexperienced in developing CD-Roms was one of the biggest challenges of the project. In spite of the expertise on staff in the form of our Technology Supervisor and Lead Faculty Member, the bulk of our design and content expertise was supplied by faculty and staff who had never before dealt with this medium.

We used a team approach in an attempt to mitigate the inexperience of our designers, and this helped a lot. Teams were usually three or four members that worked in concert on a given topic. As much as possible, we brought in industry experts and used our students to supplement the knowledge provided by faculty team members.

The biggest challenge for instructors was translating their stand-up skills to a computer-based environment, especially a media-rich environment like CD-ROM offers. The transition from classroom to CD-ROM involves a repurposing of the content that must take individual student abilities and differences into account. Most instructors do not know enough about computer-based instruction and multisensory learning to make this leap. Instructors also had trouble remembering to design appropriate interactivity into the lessons.

Discoveries

- **CD-ROM Authoring Tools** — We examined five different software authoring tools, and chose Authorware Professional by MacroMedia because it was the only tool that would allow for cross-platform development on both MacIntosh and Windows systems. Later we found that we could repurpose the modules created in Authorware for delivery over the Internet.

- Authorware included a long learning curve that made it unfeasible to train instructors to use the software, so a team approach was used with technical people doing the programming and instructors serving as content experts and instructional designers. At one point in the production process, we had four programmers working collaboratively on the project.
- Even though CD-ROM is an excellent delivery medium for large volumes of interactive content, updating material or content is a time-consuming and expensive proposition that makes this medium inflexible. CD-ROM development is appropriate for very large audiences where the up-front development time and cost can be justified. Later in the JobLink project, we found the Internet to be a more flexible and cost-effective delivery mode for computer-based instructional services.
- We also considered another design configuration that combines content from CD-ROM and the Internet. This method, called "Hybrid", allows high bandwidth media-like video, audio, and animation to be pulled from CD-ROM while current content is stored on the WWW. Updating is made easy and fast via HTML files. This type of development offers the best of both delivery systems. If we are able to find funding to support conversion of our CD-ROM material to a hybrid format, we feel they can be very useful in either lab-based or distance delivery.
- With the development of more and more multimedia capability over the Internet, the advantage of CD-ROM being able to support more audio, video and animations is diminishing. Later in this report we will discuss the advantages that have begun to emerge for delivery via the Internet.

Success Summary

- Completed ten job analyses of jobs that are common to the manufacturing floor, calling out current and future literacy requirements for each position.
- A CD-ROM program ***The Literate Worker*** was produced for use in the Labs.

- Over 300 JobLink students participated in the design and field-testing of the multimedia materials, including students at several partner companies (where the CD-ROMs were installed on site) and at the JobLink satellite labs
- Over 100 instructors and technical staff participated in the development of CD-ROM materials

Results

The multimedia design funds were exhausted before we were able to incorporate all of the field test results and comments into the final design of the CD-ROM materials and build the management system for the program.. Some rework which still needs to be done on these training modules is essential so that they can be distributed in a "bug free" format. Other required rework is the result of comments made during field-testing and is important to the instructional integrity of the modules. At this time, we are not sure how this work will be funded, and cannot predict a completion date. In order to make the materials available in their current state, we have explored alternate delivery methods.

- The Numbers and Measurement Lesson 1 was included on the New Media Centers Consortium CD-ROM Sampler #4 which was showcased at the EDUCOM 96 by Apple Computer and MacroMedia Inc. During the four-day educational conference, over 2000 CD-ROM's were distributed to educators attending the event. Demonstrations of *The Literate Worker* were done in the Apple Computer booth and a small workshop was done for MacroMedia during the conference.
- The JobLink web site (www.Joblinkoc.org) was used to demonstrate web delivery of six lessons and eight sets of practice questions from the Literate Worker CD-ROM. At the time of this writing, some of these materials may still be available for viewing over the Internet at http://www.joblinkoc.org/html/past_projects.html. The following lessons were available to students who had an ISDN or T1 connection to the Internet:
    - **Introduction--**The Glossary lesson, Learning Styles Inventory.
    - **Reading--**Context Clues, Words at Work, Sequencing.

- **Writing--**Introduction to Writing.
- **Practice Exercises--**All eight sets of practice questions

Delivery of media rich content over the Internet has become the new challenge for content providers in education and industry. Moving from CD-ROM based applications to the WWW offers interesting bandwidth (the speed that data can be delivered over the phone lines) problems.

The conversion of CD-ROM materials for delivery over the Internet is part of the ongoing analysis of the benefits of Web-based delivery of instruction as opposed to CD-ROM based delivery. As evidenced and discussed later in this report, this question became key to the project's direction as more of our student successes came from our Internet-based materials.

Task #3 Serve Students In The JobLink Lab And Satellites.

JobLink partner companies collectively had a large direct labor population. The JobLink labs offered after-hours, individualized instruction to workers who came on a voluntary basis from the JobLink partner companies and over 100 other companies in Orange County, California.

Typical JobLink lab student:

- 37 years old
- worked at their company for an average of 7.5 years
- born outside the United States
- spoke English as their second language
- had limited education in their own country or in the United States
- earned around $10.00/hr. plus benefits
- were valued employees at their companies
- attended the JobLink lab for 55.8 hours on their own time

The typical basic skills the lab student possessed when entering the JobLink Lab were:

- an average reading score of 3.9 grade level, as measured by the Test of Adult Basic Education (TABE).
- an average math computation score of 5.5 grade level (as measured by the TABE).
- 77% had difficulty writing even simple sentences without grammatical or spelling errors.
- 93% had little or no computer experience.
- 92% had significant learning gaps in their basic skills as measured by the Destinations Integrated Learning System Placement Test.
- had trouble speaking English at work.

Most JobLink students reported to their teachers that they:

- came because their employer strongly suggested it.
- were very motivated to learn.
- were scared to come to school or come back to school
- had many additional responsibilities outside of work.
- worked a lot of overtime.
- wanted to earn more money.
- wanted to move up at work but didn't know how.
- were fascinated but "put off" by technology.

JobLink business partners wanted employees:

- with good basic skills.
- who could function successfully in a work environment where only English was spoken.
- who could speak up and ask questions.
- who could work well on a team.
- who could solve problems.
- who took responsibility for their own learning.
- who could attend company training and understand and benefit from it
- who could use computers.

Over and over again we heard the same refrain from the employee. "*I don't understand why I need to read better or know about fractions. I don't do any of that on my job.* Meanwhile, the employers feel that they would not be able to retain employees on a long-term basis if those employees did not have good basic skills, even though they may have worked for the company for many years in the past. This was the major discrepancy between JobLink students and their employers.

Solution

The Structure and Components of the JobLink Labs

Armed with the information from business partners, employees, job analysts, designers and instructors, JobLink opened an after-hours, contextual, multimodal, learning lab. The idea was that if employees had a learning lab located within a few miles of their workplace, open at hours that fit their working schedules, with an open entry/open exit policy and child care arrangements, they would attend the lab on their own time and improve their skills. The JobLink Labs are summarized on **Table 1-1.**

The first JobLink Lab was located at Steelcase in Tustin, California, a central location within a two-mile radius of all the original JobLink business partners. Employees came on their own time, before or after their shifts, to use the lab. The lab was staffed with two instructors and a career counselor and was open from 11:00 a.m. to 6:00 p.m. four days a week.

Steelcase, the largest manufacturer of office furniture in the world, built out and furnished the lab with comfortable, ergonomic furniture. Students reported that they appreciated and enjoyed this setting and that it made them feel what they were doing was very important.

TABLE 1-1

Pilot Lab **February 1995 to June 1995**	**JobLink Lab at Steelcase, Tustin**	**JobLink Satellite Lab** **at Rancho Santiago - BISC**
A 425 sq. ft. lab at the Newport Corporation, a JobLink partner.	A 1400 sq. ft. custom designed lab space in Steelcase facility, a JobLink partner. Furnished with Steelcase furniture.	A 1064 sq. ft. lab in Business & Industry Service Center operated by Rancho Santiago Community College, a JobLink partner.
Lab open 16 hours per week staffed with 1 instructor and 2 volunteers. Traditional lab with open entry and open exit program.	Lab open 28 hours per week, staffed with 2 instructors, 2 volunteers, and 1 aide. Individualized and group instruction, plus 15 hours per week for self-study	Lab open 30 hours per week, staffed with 2 instructors and 1 aide available at "peak" times
63 students from 9 partner companies	843 students from 58 companies	224 students from 31 companies
3,335 hours of student attendance	37,806 hours of student attendance	10,101 hours of student attendance
13-286 computers Commercial software	12-486 computers w/ CD-ROMs 4-Power Macintosh 16 stations w/ internet access ISDN line *Invest* Integrated Learning System JobLink software Commercial CD-ROM discs 3 televisions w/ VCRs 2 laser printers	7-486 computers w/ CD-ROMs 4-Macintosh 2 televisions w/ VCR's 2 laser disc players; 2 laser printers 1-14.4 modem *McGraw-Hill* Integrated Learning System JobLink software
8 tape recorders	10 tape recorders	10 tape recorders
300 books	700 books; 200 books on tape	400 books; 100 books on tape
	After Grant Funding ended in June, 1997 Lab was operated in partnership with Tustin Unified School District Adult Education program. After June, 1998, Steelcase Corporation continues to operate Learning Center for its employees.	When Grant Funding ended in 1997, ED>Net (California Statewide Economic Development Initiative) continued to fund operation of this facility.

The lab at Steelcase was approximately 1400 square feet with one large classroom and four smaller "breakout" rooms or offices. Around the perimeter of the classroom were 12 multimedia computers with headsets, two printers, a large television set with VCR and computer connection for large group instruction, white board, bookcases and file cabinets. One breakout room housed another four multimedia computers and television with VCR. In another smaller room there was a white board and a television with VCR, books, and small tables for individual or small group instruction. The two additional rooms were shared by instructors and counselors on an as-needed basis. By the second year of the project, all computers had high speed Internet access via an ISDN line.

During year two, a second lab was established at the Rancho Santiago College Business and Industry Service Center. This satellite lab, had a variety of staffing patterns but generally was open for about 21 hours a week with one instructor and a career counselor, who was available one or two afternoons.

This was also an attractive lab of approximately 1000 square feet and housed in a business setting near a barrio residential area of Santa Ana, California, which has a very high population of Hispanic residents. The lab was furnished with older office furniture and contained 12 multimedia computers (although only one had Internet access) in a large classroom with a small classroom upstairs for group or individual instruction.

Both labs offered reimbursement for childcare services, but few students took advantage of this until permission was granted for students to be reimbursed for unlicensed caregivers.

A total of 43 students received childcare reimbursements in 1996 and 1997, after permission was received for students to be reimbursed for unlicensed childcare. Over 2000 hours of childcare were provided (a total of $9,534 was reimbursed to students). Students receiving childcare reimbursements averaged 44 hours of study in the lab in 1996 and 62 hours in 1997. Though most students taking advantage of this benefit were women, 5 male students received childcare reimbursements.

About 0.5% of the JobLink students took advantage of the childcare reimbursement. Gerardo was typical of those students.

He worked part time for McGaw and his wife also worked. A neighbor took care of their two-year-old daughter Sandra. When it became clear to Gerardo that we would help him pay for his childcare for every hour he attended class in the Joblink Lab, his hours in the lab increased. During January, Gerardo attended 18 hours in the lab. In February, Gerardo's hours of attendance increased to 32.75 hours for the month. By the time the lab closed in June of 1997, Gerardo had received a promotion to full time employment at his company.

Challenges

Getting an employee to actually come to the lab was the biggest challenge. Many partner companies brought employees over to the lab for tours during work hours, in an attempt to lower their anxiety level about going back to school.

Location seemed to be a key factor to the popularity of the Lab. Close to work meant most students came to the Lab after their work shift and before the long trip home.

Featured in the JobLink student video, Roberto Gonzalez lives over an hour drive from his job at Steelcase. Roberto's work shift begins at 3:45 a.m. After work, at 1:30 p.m., he comes to the JobLink Lab for an hour or two before starting the long drive home.

Generally the student population operated at a lower academic level than we originally projected and had many gaps in their learning. Most incoming students misspelled their company's name, could not write a complete sentence, and were reluctant to participate in group activities. It took a student more than the 40 or 50 instructional hours we originally projected to make noticeable progress. Students really began to identify their needs and wants and to drive their learning programs at around 25 to 30 hours of instruction. Significant progress was noted after about 100 hours in the lab.

Differences in Success and Attendance Between Students By Location

Table 1-2

	Average Score Improvement		**Average Hours of Training**
	Percent	***Grade Level***	
JobLink Lab at Steelcase, Tustin	51%	+2.1	102.1
JobLink Satellite Lab at Rancho Santiago - BISC	37%	+1.3	67.8

Discoveries

1. Factors that we suspect were related to student attendance and retention:
   - Proximity to the workplace. (Though some students at the BISC lab lived near the lab, it was not convenient to work locations so we lost the after-work attendance.)
   - Maintaining a business holiday schedule rather than a school holiday/vacation schedule seemed to avoid interruptions in service at the lab at Steelcase.
   - Open-entry, open-exit with hours that served a two-shift population proved to be the best configuration at both sites.
   - Monday to Thursday were the best days with Tuesday and Wednesday generally marking the highest attendance.
   - Childcare reimbursement was used when there was a simple verification process without childcare provider licensing requirements.

2. Because the only thing that can be certain is that things will change, JobLink gave students learning skills and strategies that helped them to learn better and faster. The instructors continually suggested and demonstrated effective strategies such as:
   - reading 10 minutes everyday (SSR)
   - writing in a journal on a daily basis
   - short frequent learning sessions
   - writing important information in small notebooks to keep in purse or pocket
   - organizing and maintaining calendars
   - speaking more slowly to be better understood
   - asking for what you need

> *I have to write notes to my supervisor everyday. I used to spend a long time to make the notes. Now I have all the words I need in my notebook so I can write better and faster.*
>
> 3M Dental Student

3. Student motivation was an important part of the Lab program. JobLink instructors and counselors encouraged students to become responsible for what they wanted to accomplish. When the learner established a learning plan it was based on what they wanted and needed, not what the instructor or counselor dictated.

> *Gualberto came to the lab everyday on his lunch hour. He wanted to improve his math and reading skills to get a better job. It took him 2 years but he was determined to make it, and he did.*
>
> JobLink Lab Instructor

4. Many employees who came to the lab were tactile learners. Consequently, a great emphasis was placed on doing things. Students were encouraged to question, discuss, and participate. Learning in the lab was a dynamic process. Team activities, individual assignments, small discussion groups and one-on-one tutoring were all part of the daily lab schedule.

5. A great emphasis was placed on the individual and her/his particular learning style. Students took a variety of learning-style surveys and reviewed them with instructors and counselors. They were asked to observe their children and coworkers and become aware of the different ways people liked to learn. In addition, students were given lists of things to do to accommodate their learning style. (For example, if you are a visual learner, use highlighters for important information. If you are an auditory learner, say things aloud to remember them better.)

   In a multimodal lab, students were encouraged to try all the learning tools and to evaluate their usefulness to them. Without exception students preferred using the computers. They especially liked computer programs with sound. In addition, they read and listened to adult books that dealt with a variety of real life problems.

   Students were encouraged to use multiple modes in their learning and encouraged to experiment with these. (How much more did you remember when you read and listen to a story than when you just read it? How much more did you learn when you read, listened and then discussed information?)

> *I know I learn best when someone explains something to me. When I am at work and do not understand something after I read it, I ask questions. I sometimes say I learn best when someone explains it to me. Do you have time to do that?*
>
> Deft Student

6. Of the hundreds of students who attended the labs, almost all remarked about how friendly and kind the staff was. Each person was treated with respect and as an adult. Instructors came in early and stayed late to accommodate the student. Instructors, volunteers, and assistants dealt with each student as a special individual. (Following one meeting with his teacher a young, burly forklift operator was moved to tears because the instructor commented on how smart he was. He said no one had ever told him that before.)

> *Some people at work told me about JobLink. I was afraid to come. Two times I came to the door but went back to my truck and went home. Finally I came in. I have been here almost everyday since then.*
>
> Student, McGaw

7. In a high tech lab, equipment must be well maintained. Printers must print, computer programs must be easy to access and even tape recorders need to have fresh batteries. A great effort was made to assure that equipment and products were easy to use and working well.

8. Because of the second-language population of the Lab, a great emphasis was placed on communication skills. Employees were expected to participate in discussions, to ask for what they needed, and to express how they felt about activities in the lab. The instructors and counselor met regularly to discuss lab business and to keep communication channels open.

9. Learning materials were purchased and designed to meet the needs of a manufacturing employee. In addition, the emphasis was on trying out what was learned in class the next day at work, at home or in the community. Students were given reasons to go back and practice what they learned at work the very next day. They were also encouraged to bring actual work problems and materials to the Lab for use in their learning activities.

> *He never said much before going to JobLink. Now his speaking and writing have greatly improved. He has confidence, he speaks up at meetings with his peers and with managers and supervisors.* Supervisor, Newport Corp.

10. After the launching of Netscape in 1996 and as more and more sites were published on the Internet, instructors began to design lessons around these web sites. Students were able to visit the White House, find out their Social Security investment, check their company stock, read news from their country of origin, and find out ways to reduce work-related stress. Students were excited about using the Internet and amazed at the wealth of information available to them. They often visited their companies' web sites and the sites of competitors to learn more about how their jobs fit into their company and their industry.

11. All students in the lab received a free **HotMail** account so they could correspond with their instructors and each other. Students were encouraged to write at least one E-mail each visit. Not only did this provide individualized contact with teachers, aides, and volunteers, but students also found it to be a very natural, self-motivating form of writing. Later in the distance learning program we began to actually measure the increased word production that developed as students used their E-mail regularly.

12. On-line chatting became a very popular lab activity. With students sitting at every computer station, the instructor conducted informal on-line chats. Besides asking and responding to questions, students played games in which they tried to type the correct answer to a question like- "Who was the first President of the United States?" This was great fun and one student commented, "*I had to think in English for the first time*." Even though they were sitting right next to their on-line chat partner, students engaged in this activity as if they were at a great physical distance from one another.

13. When the lab first opened, students used a variety of CD-ROMs. However, as the Internet became more accessible, students preferred to use it. (This was an important factor in our decision to move the instructional materials we were designing from CD-ROM to Internet format.) The one exception was the ***Rosetta Stone***. This interactive CD-language tutorial was used frequently by the second-language learners.

14. More traditional programs like Davidson's ***Goal Reading*** and ***Word Attack*** and Educational Activities' ***Diascriptive Reading*** did not excite the instructors, but they are educationally sound and many students preferred the drill and practice exercises.

> *I like to use good vocabulary. There are a lot of words that I hear and don't know. I see those words in this program.*
>
> Steelcase Student

15. Most of the participants of JobLink spoke English as their second language, so a great deal of emphasis was placed on communication and team work. On every trip to the lab, students were encouraged to complete a teamwork or paired-learning assignment. These included such things as interviewing other students, conducting surveys, doing research together, or solving a given problem.

> *Rafael is a new team leader because he has learned how to work on teams. I noticed a difference when he started going to JobLink.*
>
> 3M Healthcare DCI Supervisor

16. Conversations were conducted frequently at the lab. They were built around a specific workplace theme and students were encouraged and expected to participate. Students were expected to ask and answer questions and participate in discussions. Students were encouraged to practice asking questions here that they would like to ask at work.

> *Mr. Davidson was surprised when I talked to him. I had worked with him for a long time and I never say nothing. Now I ask questions, and say what's on my mind.*
>
> Deft Student

17. During the first year of the grant there was a full-time counselor on site. She maintained an office and conducted initial interviews with the students. It was very difficult to get the students in to see the counselor. If they made an appointment they would rarely show up. During the last 1.5 years, another counselor served in the dual role of teacher and counselor in the classroom. Since she was not seen as a counselor, the students had a lot of contact with her.

> *I plan to go to the college after I improve my skills here. Marta showed me the classes I would need to take to get a supervisor certificate.*
>
> Printronix Student

18. WebTV was a big hit in the lab. Group Internet lessons and instructions were easy using the Sony WebTV. Students liked to work in small groups and find information together using this device. Students participated in drawings to take the WebTV home for the weekend.

> *My family loved using the WebTV. My son found out all about the Lakers. I taught my husband how to send E-mail.*
>
> Steelcase Student

19. JobLink received 30 copies of the L.A. Times on Thursdays. If instructors took the time to plan a short lesson around a feature in the paper, students enjoyed the stories and the papers quickly disappeared. When there was no specific learning activity, few students picked up the newspapers. CNN on-line also became a tool that was often used to craft lessons for students on the Internet.

20. Equal in popularity to the computers were the books on tape. Sundown and Fitting-In Series were the most popular. Students especially related to the adult stories about real life problems. Even though these materials were not contextual to the workplace, students often applied the lessons learned to the work setting.

Listening to books and reading them too helped me with my pronunciation. I liked hearing and reading them over and over again..

3M Dental Student

21. JobLink had a great pronunciation instructor who gave very engaging and energizing presentations. Since students came and went, many were disappointed at not being around for his lessons. This problem was resolved by video taping the lesson and allowing students to watch them in class or to check out the videos to take home.

I come on Wednesday just to see George. He is funny and gives me tips to use to speak more clearly. One of my coworkers actually says she can understand me better.

McGaw Student

22. Although not part of the NWLP grant, Santa Ana College made citizenship classes, materials, and application assistance available to JobLink students. About 65 students became citizens while at JobLink. (Usually, these students were highly-motivated in all of their studies at JobLink since they knew they could not pass the exam unless they improved their reading scores.) It was a great accomplishment for them and encouraged them to continue learning.

I have lived in the United States many years. I always wanted to become a citizen. My wife and I took classes at JobLink and we are both citizens. We feel very proud..

23. A variety of awards were offered for student participation and persistence. Students appreciated participation certificates but seemed to appreciate their teacher's words of praise more than anything else.

24. The JobLink students and staff produced 13 newsletters called *JobLink Letter*. The students determined the theme of each publication and then wrote their stories. About every quarter, over 1,000 newsletters were printed and distributed. This was a great way for students to get some recognition for their hard work and was one of the best advertisements for JobLink. The JobLink letters can be found in Appendix G.

25. Several volunteers assisted the students in the JobLink Labs. We had several interns from the University of Southern California, a retired pediatrician, and a literacy coach from a local library. The volunteers made it possible to offer students one-on-one tutoring when it was required or requested. These volunteers brought a wealth of experience and knowledge that made lessons more fun and interesting.

> *I had to pass an exam on electricity at my job. I brought all the stuff to the lab and Dr. Richard spent hours helping me to understand. I passed my test. I think I got one of the highest scores.*
>
> Steelcase Student

Success Summary

Based on a sample of 144 pre-and post-tests, here are some notable results:

- Students attending JobLink showed an average gain of 1.9 years in reading for 94.7 hours of lab attendance.
- Students improved in math a 0.9 grade level with 88 hours of lab attendance.
- 69% of students reported they had a positive job-related success after attending the JobLink Lab.
- Instructor's evaluation noted greatest gains in students:
    - asking more questions
    - speaking up in the lab
    - asking for what they wanted and needed
    - using initiative in learning
    - having more confidence

improved ability to solve problems

better critical thinking skills

- 99% of the students were able to use the computer to complete some of their basic skills programs, as well as to use the Internet and E-mail addresses.
- Students reported that they took these new skills away from their experience in the JobLink lab:

  Basic Computer Skills

  Increased comfort in speaking up and asking for what they wanted

  Team skills

  Awareness of learning style--their own and others

  More responsibility and direction of their own learning

  Knowledge of how to find information

  Basic Internet skills, use of Internet tools like E-mail, and how to conduct a simple Internet search

  Improved self-confidence

  Ability to create simple documents on the computer-like agendas and memos
- **The attendance in the JobLink Lab at Steelcase for 2.5 years was 37,806 hours, serving 843 students/employees.**
- **The attendance in the JobLink Lab at BISC at over the 1.5 years was 10,101 hours, serving some 224 students/employees.**
- **JobLink served 858 unduplicated employees who participated in 47,907 hours of instruction at the JobLink Labs.**

Table 1-3

JOBLINK LAB	
Total Duplicated Enrollments	**1,930**
Actual number of students served (Unduplicated Student Count)	**858**
Total Student Hours	**47,907**
Average hours per student	**55.8**
Years of School Completed in the United States	
No Response	**32%**
No Schooling	**21%**
1 - 5 years	**22%**
6 - 8 years	**3%**
9 years	**2%**
10 years	**3%**
11 years	**3%**
12 or more years	**14%**
Years of School Completed in a Foreign Country	
No Response	**30%**
No Schooling	**3%**
1 - 5 years	**13%**
6 - 8 years	**14%**
9 years	**8%**
10 years	**7%**
11 years	**3%**
12 or more years	**22%**
Average age ***[17-66]***	**37**
Gender (by percentage)	
Female	**45%**
Male	**51%**
No Response	**4%**
Race (by percentage)	
White	**4%**
Black/African American	**1%**
Asian/Pacific Islander	**18%**
American Indian/Alaskan native	**0%**
Mexican/Hispanic	**70%**
Other	**2%**
No Response	**3%**
US Born (by percentage)	
No Response	**3%**
Yes	**16%**
No	**81%**
English Spoken at Home (by percentage)	
No Response	**6%**
Yes	**27%**
No	**67%**
Hourly wage (average) ***[$4.25 - $27.00]***	**$ 9.83**
Average length of employment	**7 yrs. 6 mos.**

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Table 1-4

Question asked:	**Responses**
In the future, do you plan to take any of the following courses?	
	Plan to Take*
A basic skills course in reading, writing, or math:	78%
A course in using English (such as ESL):	77%
A computer course:	76%
A GED course or the GED exam:	49%
Courses to get an occupational certificate:	43%
A job training course:	51%
Courses leading to a 2-year or 4-year college degree:	44%
A home-study course:	34%
Since this course[1] began, have you:	
	Percent (Yes)
Learned what you wanted to learn in this course?	90%
Changed your educational or career goals?	77%
Had more responsibility added to your job?	63%
Moved to a shift you prefer?	30%
Switched from part-time to full-time?	15%
Received a pay raise?	27%
Been promoted?	23%
Received an award, bonus, or other special recognition on your job?	19%
Received your GED?	19%
Applied for a new job?	17%
Started a new job at another company?	15%
Been laid off?	9%
Left your job for any other reason?	3%

Table 1-5

When asked:

Please rate your ability to perform each of the following activities:

	Percent of Lab students who noted improvement
Read English	47%
Understand English	35%
Speak English	43%
Write English	52%
Work as part of a team	25%
Use math	48%
Solve problems/use reasoning	40%

---

* Percent of those who answered this question.

[1] This, and all subsequent tables that refer to "course" are based on questions asked on the NWLIS Enrollment Form given to the student at the start of their attendance to JobLink and on their latest Assessment Form. There were no credit courses at JobLink.

Standardized Grade Level Test Score Improvements for Lab Students:

Pre- and post-tested only, average number of hours of instruction is 94.7.

Table 1-6

Pre-Test	
Mean	3.9
Median	3.2
Mode	2.3
Range	12.9
Minimum	0.0
Maximum	12.9
Count	144

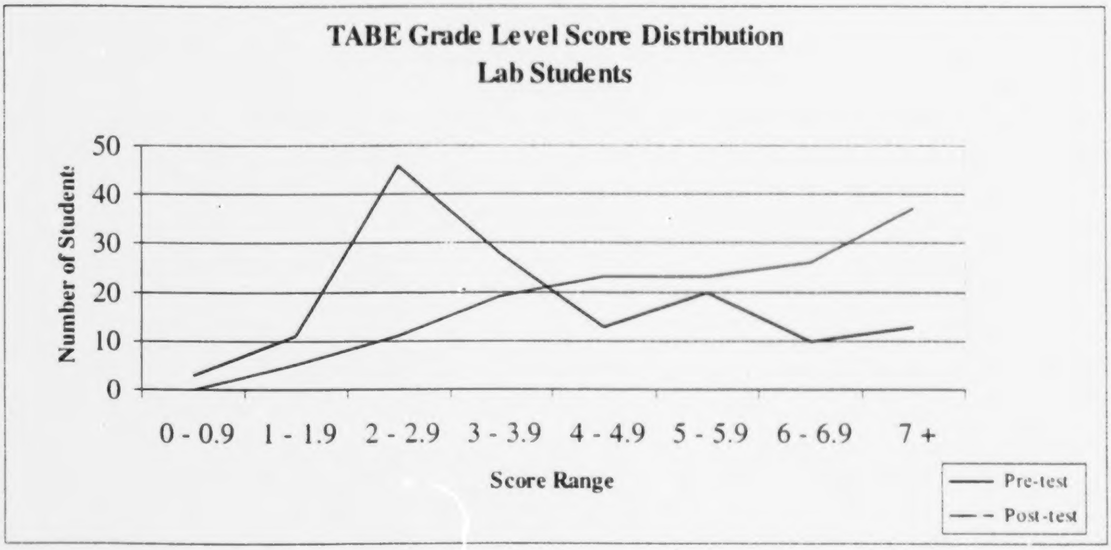
Post-Test	
Mean	5.8
Median	5.3
Mode	6.0
Range	11.3
Minimum	1.6
Maximum	12.9
Count	144

Change	
Mean (+1.9)	+ 49%
Median	1.7
Mode	1.6
Range	10.2
Minimum	-1.4
Maximum	8.8
Count	144

Score Distribution

		Number	
Range		***Pre***	***Post***
0 - 0.9		3	0
1 - 1.9		11	5
2 - 2.9		46	11
3 - 3.9		28	19
4 - 4.9		13	23
5 - 5.9		20	23
6 - 6.9		10	26
7 +		13	37
n=		144	144

Chart 1-1



The following charts show score changes between pre and post-test. Students are grouped in three pre-test score grade level ranges; 0-2.9, 3-5.9 and 6 or higher.

Chart 1-2

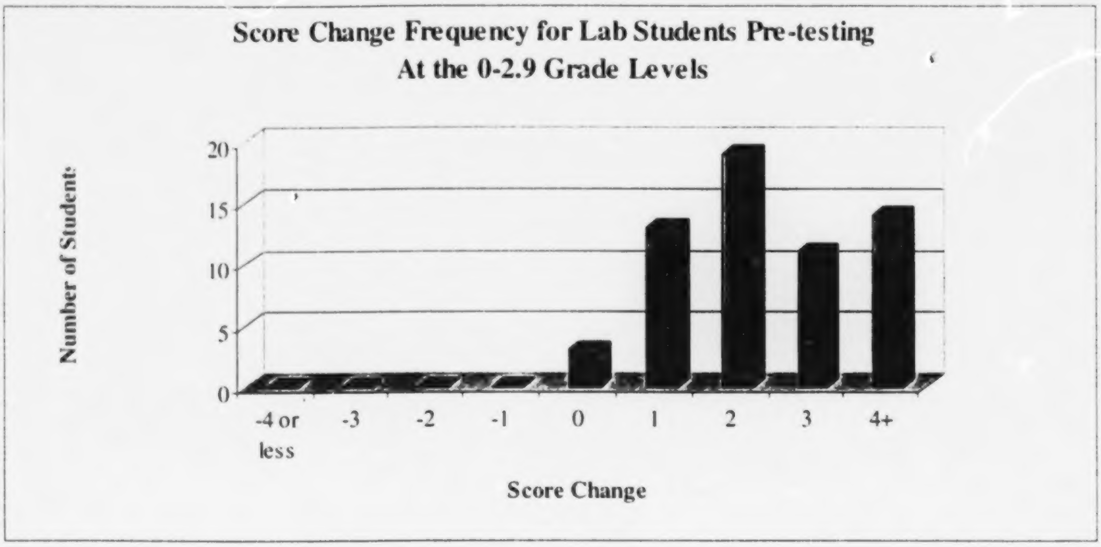


Chart 1-3

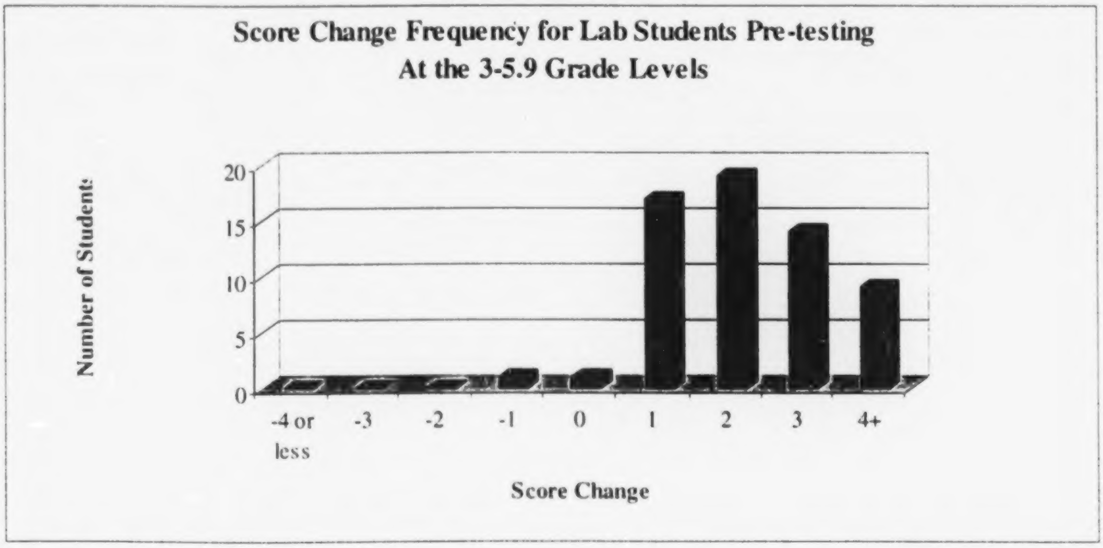
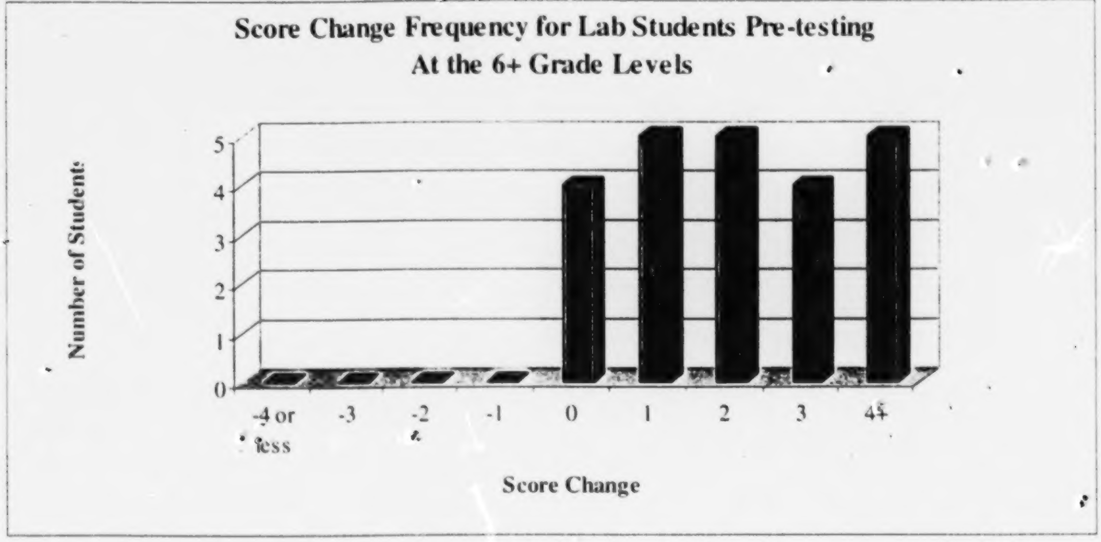


Chart 1-4



Comments

JobLink lab students were manufacturing employees who were encouraged by their employers to improve their basic skills and take advantage of the convenient opportunities available through the JobLink program. The 858 employees who used the JobLink lab and satellite did so mostly on a voluntary basis. They averaged over 55 hours of study, which is notable for a voluntary, after-hours program. Most of them did not receive time off from their jobs to participate in this phase of the JobLink program. As noted in Chapter 7 of this report, lab students made better gains for the number of hours of study than any other group of JobLink students. We suspect their outstanding progress is a result, or at least a by-product, of their self-motivation.

In light of their persistence, the grade level improvements on standardized TABE reading comprehension tests (averaging 1.9 grade levels or 49% improvement) may have been predictable, although these results are slightly higher than the 1 grade level/100 hours of study standard that is frequently used to measure adult education program success.

These student improvements are especially noteworthy in light of the low level at which most JobLink lab students began—an average grade level of 3.5. That these students could make such excellent progress in a program that was heavily dependent upon use of computers and even incorporated the Internet into its educational resources may be one of the big surprises of the project. In observing the shift in distribution of test scores from the pre- to the post-test, we see quite clearly the progress made by the large number of students who tested below the 3.0 grade level at the beginning of their JobLink program of study.

Participation in the JobLink lab appears to have seeded other learning plans and goals, as evidenced by well over 70% of lab students indicating that they planned to continue taking basic skills classes, wanted to take a computer class, and had changed their career and/or educational goals.

In translating their JobLink training back to the job, 63% of the lab students indicated that since beginning the JobLink program they had had more responsibility added to their jobs; 27% had received a pay raise; 19% had received some special reward or recognition for a job-related accomplishment; and most importantly, 23% had been promoted.

Students' self-rating of their success should be viewed in light of the fact that they were asked to gauge their improvement on a 4-point scale, so quite a bit of improvement had to occur before students indicated that they felt they had made a gain. Nevertheless, nearly half of the lab students indicated they had improved their ability to read English, speak English, and use math.

JOBLINK LAB SUCCESS STORIES

Supervisor Comments:

"My sister-in-law told me about JobLink. I went to classes there to become an American citizen. It helped me a lot. In February, when I was promoted to plant manager, one of the first things I did was to bring JobLink to our manufacturing floor. I know they can help my employees like they helped me and so many others."

Ed Prado, Dynacast

"I can see a difference since Raul started classes at JobLink. He can communicate with me and the other managers. It is so much easier to explain things because he asks questions when he doesn't understand. I don't waste time wondering if he understood me."

Charlie Rembert, Marmac

"Something that jumps right out at me is the English. I never saw any progress before, but now he has confidence to speak up at meetings. He doesn't wait to be addressed. If he has something to say, he says it. It's remarkable!"

Dave Holloway, Newport Corp

"When Ba's job was moved to Singapore, everyone in the department had to search for new positions within the company. Ba was the one member of the team that had been participating in JobLink classes and when she was interviewed by an English-speaking engineering team, she made a great impression. She got the new position. Her hard work really paid off."

Julie Holder, Printronix

JOBLINK STUDENT COMMENTS

"I work the 2nd shift at McGaw and my supervisor leaves at 3:00 PM, shortly after I come on. If there is a problem I have to resolve it following the proper procedures. The procedure book is huge. Since I have been coming to JobLink I have better skills to make the right decisions."

Daniel Villagrana, McGaw

"Now I listen and understand. I am not nervous and that's good. Before I worked in one department, now I am in another. Now I am in the final inspection department. I am the last person to check the product. I have to have good skills and I do."

Marleny Oviedo, Rosemount

"When I started at JobLink I was a team leader. I have just been made a temporary foreman. I come to JobLink everyday on my lunch hour to improve my skills. I am getting better with the computer and my writing. I hope to keep the foreman job, but I have to prove I can do the job."

Rafael Ramiro, Steelcase

Task #4 Design and Deliver a Distance Learning Program

Developing a Distance Learning System

The goal of this project is to discover and develop training systems and materials that will improve the effectiveness of workplace literacy programs and increase the success of the participants of those programs. Our confidence in the use of technology to design such systems and materials was evident in our original proposal. After fully developing the equipment and capabilities to use leading-edge technologies, we discovered a direction that was not available when the proposal for JobLink was being developed. Consider the technological advances that occurred since that JobLink began in January, 1995!

Technological Advances that Support Distance Learning.

Combined technologies make the delivery of literacy materials over the Internet a reality. These technologies were not available at the time this grant was written and were not part of the original proposal. By incorporating these new technologies into the JobLink program we were able to deliver our product and services to a much larger audience—an audience that was not limited by time, location or space restraints.

- **ISDN/T1 Internet Connections**

  With the installation of an ISDN Class C high-speed telecommunications line at the JobLink Lab, all computers connected to the JobLink Ethernet network had access to the Internet and World Wide Web at 128Kbs. This high bandwidth connection was 4 to 7 times faster than a standard modem connection at the time (1996). The ISDN line allowed us to rapidly transmit and receive files containing audio, video, animation and text.

- **RealPlayer**

  One of the leading reasons why the Internet has become a new focus for delivery of distance learning to literacy students, is a technology called RealPlayer which includes RealAudio and RealVideo. RealPlayer adds the ability to play audio and video content on demand. What this means is that audio and video can be streamed across the Internet allowing the user to start hearing sound or seeing video as soon as a small portion has been received. In the past, a user would have to download the complete audio or video file before hearing or seeing anything. This could take several minutes depending on the size of the file. Since audio and video are essential for our literacy population, this technology created many new possibilities.

Starting with a site on the World Wide Web (WWW)

JobLink created a World Wide Web site (www.joblinkoc.org) to deliver distance learning over the Internet. The web site used state-of-the-art technology for publishing and delivering information over the Internet. The JobLink Web site incorporated full screen interactive courseware with sound, video, text, graphics, animation and testing. Initially, we tested and repurposed materials designed in Authorware Professional (the Literate Worker CD-ROM and Practice Lessons). Later, the TopClass server software was used to host and deliver newly developed instruction via the web site. This type of professional interactive courseware has only been deliverable from a local computer hard drive or CD-ROM since June, 1996.

The JobLink web site is hosted on a Sun Microsystems Solaris Server which has the capability of supporting millions of hits to the web site on a daily basis. The TopClass software is designed to support 100 concurrent users and an unlimited number of students to be enrolled in classes. The Server supports RealPlayer streaming media software discussed earlier.

Rationale for Distance Learning

Although the JobLink Lab and its satellite at BISC were successful in attracting students and providing effective learning experiences, there were some critical drawbacks to the traditional learning center approach:

- Over 40% of the students who came to the JobLink Lab stayed fewer than 10 hours, in spite of the increased support services that were offered to them. The excuses for not continuing most often included some component of scheduling: change in work shift, overtime assigned, or schedules of family members that interfered with attendance.

- Learning labs like the JobLink Lab at Steelcase are expensive to create, house, and maintain. There is a major commitment required that is difficult for all but the largest companies to make. Even in a partnership or consortium, the group must be willing to fund the technical salaries for equipment maintenance and the instructional salaries of teachers and aides.

At the same time, certain features of the Lab were positive:

- Students are drawn to the technology. Using the computer seems to reduce and/or remove the negativity of working on very basic skills and tasks. Adult literacy students are eager to be part of the technological wave that is changing their workplaces, their homes, and their children's schools.

And, the technology itself is driving some fundamental changes in how we offer learning:

- Multimedia gives us the opportunity to produce materials with multisensory components that are especially valuable to literacy students.

Because of all these factors, halfway through the project we shifted our basic approach from the development of materials for use in a computerized learning center to the development of a system that capitalizes on all the technology currently available on the Internet. A distance learning system focused on instruction delivered to the desktop, using the World Wide Web, promised a truly innovative approach that might be able to overcome some of the obstacles encountered in a learning center—even one that is open long hours and caters to an individualized, learner-centered approach.

Building Just-In-Time English

In our original proposal a satellite lab was scheduled to open in the Irvine Spectrum during the third year of the grant. When grant funding for Year 3 was reduced we could not make this part of the plan a reality. However, we had already been talking to a large manufacturer in the area, Alcon, who wanted to take advantage of the JobLink educational opportunities for their employees. Alcon had a 20-station "in house" computer training lab and when we asked them if they wanted to help pilot a distance learning program, they quickly agreed. Alcon hosted a lunch for employees interested in hearing about a distance learning program. Following the short introduction, over 100 employees signed up to participate. So in the summer of 1996 our first on-line learning program emerged.

Fifteen employees were chosen from the pool of 100 volunteers. Since it was still not feasible to deliver media-rich material via the Internet at that time, we enlisted the help of Simon and Schuster to simulate an Internet-based delivery system using their integrated learning system, Destinations. The Destinations system was made available via CD-ROM.. By giving each student an E-mail account to work with the instructor, we simulated an asynchronous Internet-based learning environment. The Destinations CD-ROM was used instead of the JobLink Literate Worker CD-ROM because the Destinations system had a good management and tracking feature that allowed instructors to track student activity and progress. Students also received kits of materials such as books and tapes to be used off-line.

Employees from Deft and 3M CDI also joined the pilot project so 25 employees with good job skills who needed to improve their communication and team skills began the pilot distance learning program. All 25 read below a 6.0 grade level and were unable to construct a simple paragraph. After completing the 12-week course, reading scores improved over 1.0 grade level (as measured by the TABE); writing volume and length of sentences improved over 200% as measured by pre- and post-writing assessments; and job performance, as assessed by supervisors and participants, improved significantly. Based on the success of these pilot groups, a decision was made to design our own Internet-based program. The details of the results of the pilot program are found in Appendix C, Distance Learning Reports.

The first group of students gave us a great deal of information which helped us design this new program. Students liked the E-mail the most. The Destination Integrated Learning Program delivered via CD-ROM was satisfactory, but it did not address the needs of a manufacturing population. Some students found it boring but mostly it was not contextual enough to meet their job-related needs.

So we began to write short, contextual manufacturing lessons for students to access via the Internet. These lessons drew on the information and experience of our students and on the original job analyses performed in Year 1 of the project. The program was developed with a software called TopClass that supported an on-line course-management program. Automatic testing, student tracking, internal E-mail, and discussion lists were easily incorporated into the new design. We developed a simple 12-week course with manufacturing-specific content, written at about a 4.0 to 5.0 grade reading level. Each week the student completed an on-line reading, vocabulary, teamwork and writing assignment via the Internet. Students could print out the lessons to take home or do the entire sequence on the computer.

The courses that were developed are called Just-In-Time English and Just-In-Time Communications (the latter version is designed for students who speak English as their native language). It is an Internet-based course that forces employees to go out and do things on the manufacturing floor as homework assignments. The reading and vocabulary lessons are designed to give the student information and some background about a specific topic. The teamwork assignment then requires the employee to go out onto the floor and complete an assignment. The assignment might be to conduct a survey, interview a coworker, or identify specific safety signs around the plant. Then the employee sends back information to the on-line instructor via an E-mail.

Each section of each lesson has an on-line interactive quiz or question and answer exercise. These are automatically scored and the student receives instant feedback. The Instructor is notified of the student's scores every time a student takes or retakes a test.

Two important off-line components are included to meet the varied learning styles of students and guarantee face-to-face contact for them. The first off-line activity is a mentoring program. Each week students are given an agenda for a meeting with their mentor, who they choose and recruit early in the program. The second important off-line activity comes in the form of a kit. The kit was custom-designed for the student and included books on tape, hands-on exercises (like *How to Write for Everyday Living* and *Building Reading and Listening Comprehension*), and games to be used off-line and at home.

Over the next one and a half years, JIT English was delivered to over 100 employees at eleven manufacturing plants. The results continued to be encouraging. Not only did employees use the program on their own time, but long after the beta tests ended employees stayed in E-mail contact with their instructors.

JUST-IN-TIME ENGLISH/JUST-IN-TIME COMMUNICATIONS

Distance Learning Program

- **Cycle 1 Building Personal Strategies**

Week 1	Welcome
Week 2	Practice
Week 3	Learning Style
Week 4	Return on Investment

- **Cycle 2 Building Team Strategies**

Week 5	Attitude
Week 6	Listening
Week 7	Solutions
Week 8	Resolutions

- **Cycle 3 Building Winning Strategies**

Week 9	Stress
Week 10	Technology
Week 11	Success
Week 12	Putting It All Together

A typical lesson follows. Please keep in mind when viewing this off-line that none of the interactivity is evident or available. A fully functional version of this lesson is available on the JobLink worksite at www.joblinkoc.org.

Points 10
Number to be done 10
Will be auto corrected

Reading 5

First Click Below

- Cycle 2 Goals
- Week 5 Goals
- Cycle 2 Flow Chart

Page Directions

- **Print the page.**
- **Read the page.**
- **Highlight what you think is the most valuable idea.**
- **Underline the words you do not understand and discuss them with your mentor.**

American Work Attitudes

Vice-president of Pacific Telesis, Jeremy Jacobs, reported the results of a survey taken from over 200 employers. In the survey they asked these questions: "What are the qualities that count with employers? What are the things that are most important when you are going to hire or promote an employee?" The results of this survey might surprise you. Employers said that a positive attitude was the most important trait that they looked for. Communication skills, work experience and recommendations were also things they carefully considered, but a good attitude was essential.

Attitude is really how you feel about something or someone. Attitudes on the job are important because they can affect job behavior. You can probably see this in your own life. If you like your coworkers you will act in a positive way when you are around them. If you like your job, you will work harder and better. How you feel about something shows in your behavior.

Your attitude is something that forms over many years, beginning when you are a child. A good attitude is often called a positive attitude. A bad attitude is called a negative attitude. If you usually look for the good in things, you probably have a positive attitude. If you always see the bad side of a situation, then you have a negative attitude.

People who have a good attitude are

BEST COPY AVAILABLE

generally easier to be around. They get along better on work teams and and don't blame others when things go wrong. People with a negative attitude often feel they are being mistreated. They are always looking for someone to blame when there is a problem. They complain about everything.

It is difficult and discouraging to work around people with a negative attitude. However, attitudes can and do change, so if you think you want to improve your attitude look at the list of the positive and negative attitudes below. Concentrate on building the positive attitudes and eliminating the negative attitudes.

Attitudes Chart

Positive Attitudes	*Negative Attitudes*
Willing to change ideas and behavior	Unwilling to change ideas and behavior
Rarely complains	Complains about everything
Accepts responsibility for mistakes	Blames others for mistakes
Is considerate of others	Thinks only of self
Seldom criticizes others	Is very critical of others
Never makes excuses	Always makes mistakes
Smiles easily	Rarely smiles

Reading Quiz

Question 1

Employers surveyed said:

○ communication skills were most important when hiring a new employee.
○ recommendations from important people were most important when hiring a new employee.
○ a good attitude was most important when hiring a new employee.

For 1 points

Question 2

How many employers were surveyed?

○ 150
○ 200
○ 2000

For 1 points

Question 3

A survey is used:

○ as a test.
○ to gather information.
○ to make people buy a product.

For 1 points

Question 4

A person's attitude:

○ forms over many years.
○ can usually be determined by watching their behavior.
○ both a and b.

For 1 points

Question 5

A person with a positive attitude:

○ sings all the time.
○ is always smiling.
○ is generally easier to be around.

For 1 points

Question 6

If a person has a negative attitude:

○ they often feel they are being mistreated.
○ they are always frowning.
○ they are always angry.

For 1 points

Question 7

The main idea of this article is:

○ a good attitude is important to employers.
○ a good attitude will get you a great job.
○ if you have a bad attitude you'll be fired.

For 1 points

Question 8

A person's attitude affects their job performance.

○ true
○ false

For 1 points

Question 9

Attitude is defined as:

○ what a person thinks about something.
○ what coworkers think about another employee.
○ what a person feels about something.

For 1 points

Question 10

Attitude is important when hiring and promoting employees.

○ true ○ false
For 1 points

Submit Edit Reset

Points 5
Number to be done 5
Will be auto corrected

Vocabulary 5

"Communicate, recommend, attitude, mistreat and concentrate" are new vocabulary words in your reading lesson. Here's a chance to see how well you understood the new vocabulary words you learned.

Directions

- **Take the "Vocabulary Quiz" at the bottom of the page.**
- **Click on the "Submit Button" below the quiz to check your answers.**

Vocabulary Quiz

Question 1

Good [select correct word] **is important in the workplace and at home.**

concentrate ▾

For 1 points

Question 2

His boss wrote him a good [select correct word] **when he applied for another position.**

concentrate ▾

For 1 points

Question 3

When you work around people with a positive [select correct word] **the job seems easier.**

concentrate ▾

For 1 points

Question 4

When Joe's workload was increased, he felt he was being [select correct word].

concentrate ▼

For 1 points

Question 5

The noise in the plant makes it difficult to [select correct word].

concentrate ▼

For 1 points

Submit | Edit | Reset

Points 8
Number to be done 8
Will be auto corrected

Teamwork 5

Conducting a Survey

- **Print this page.**
- **Read "Conducting a Survey."**
- **Conduct Surveys.**

Click to Get

→ **Mentor Meeting Agenda**

Conducting a Survey

A survey is a way to collect information about topics you are interested in, or subjects your company would like researched. When conducting a survey you ask questions to find out what people think. Reading 5 is about a survey that employers took. The employers surveyed said that a positive attitude was the most important thing they considered when hiring a new employee. They said it was more important than job skills or communication skills. We want you to find out what employees think is most important.

Do employees and employers agree? Conduct your survey to find out.

Survey Directions

Survey 5 coworkers using the following question:

- *What do you think is the most important thing to consider when hiring a new person for our department: good job skills, good communication skills or a good attitude?*

Coworker #1 said: [ ] Good job skills [ ] Good communication skills [ ] Good attitude

Coworker #2 said: [ ] Good job skills [ ] Good communication skills [ ] Good attitude

Coworker #3 said: [ ] Good job skills [ ] Good communication skills [ ] Good attitude

Coworker #4 said: [ ] Good job skills [ ] Good communication skills [ ] Good attitude

Coworker #5 said: [ ] Good job skills [ ] Good communication skills [ ] Good attitude

Teamwork Quiz

Question 1

When the lead is absent Mary is [select correct word] **for getting the work done. She makes sure that it is done according to the procedure.**

changes ▾

For 1 points

Question 2

Joe is a friendly co-worker and when he sees me each morning he [select correct word]**. This always makes me feel good.**

criticize ▾

For 1 points

Question 3

When we get new machines on the floor, the team has to make some [select correct word]**. It is always easier to keep doing the same thing but unfortunately things don't remain constant.**

complains ▾

For 1 points

Question 4

To praise is the opposite of [select correct word]. **Do you give praise when it is due?**

complains ▾

For 1 points

Question 5

When Thaun does not get all his work done, he always has lots of [select correct word]. **The supervisor is not interested in hearing these.**

excuses ▾

For 1 points

Question 6

Sometimes when Robert has to work overtime, he [select correct word] **that it is inconvenient.**

excuses ▾

For 1 points

Question 7

Carlos never [select correct word] **anyone for the mistakes he makes. He accepts the responsibility.**

excuses ▾

For 1 points

Question 8

When you think about how your actions affect others, you are being [select correct word]. **When you think only about yourself, you are being selfish.**

responsible ▾

For 1 points

Submit | Edit | Reset

Writing 5

Directions

Write answers to the two email exercises below and send them to your instructor. Check your **"Read Message"** folder in a few days for your instructor's comments.

Email #1: Tell your instructor about your survey results. What did your coworkers think was important? Did they value good job skills, good communication skills or having a good attitude?

Email #2: Can you describe a coworker with a positive attitude? How do they act at work? Are they more productive workers?

Write and let your instructor know.

Challenges

Technical Challenges

1. Netscape was introduced in Fall, 1995, and brought with it the possibility of delivering rich instructional content via the Internet. At first, it was difficult or impossible to deliver audio, video or complex graphics so Internet delivery looked very little like the multimedia environment we created on CD-ROM. However, over the past three years the Internet and the browsers and bandwidth that allow access to it have become more and more sophisticated. Using server software or educational courseware management (we use TopClass by WBT Systems) we can support tracking, registration, and management of students in an environment that supports integrated E-mail, discussion groups, live chat sessions, and auto-corrected testing with prescriptive feedback. Though still not as sophisticated or interactive as the CD-ROM environment, the Internet can now support educational applications that are effective learning tools and its capabilities are growing daily.

2. Many technical challenges still remain in adopting and adapting the Internet to the literacy student. Developers must be aware of the different levels of equipment from which a student might access the learning program. It is never appropriate to design to the most sophisticated level since that might make it impossible for students working from home or on older equipment to access the program. Interface design becomes very important with the literacy student, who seems to appreciate a simple, straightforward screen presence without too many graphics and distractions.

3. One of the many challenges in launching the pilot programs was getting the companies to set up equipment with unlimited Internet access. Companies were suspicious about allowing employees to explore the WWW, and although many companies are now changing their policies some still are very leery of employees who might use the Internet for personal or non-business activities.

4. It was difficult to get good technical support for the on-line learners. When printers or computers were not working, it often took days to resolve the problems. The on-line learning computer was not a priority for the technical support within a plant.

Instructional Support

1. An "in house" cheerleader-instructor was essential to keep things going. This person was crucial to the success of the program. In companies where no or minimal support was provided, employees became discouraged and did not do as well as in companies where they were supported. In the pilot programs the cheerleader was usually someone from the training or Human Resources Section of the company.

2. It was difficult to find good on-line instructors. Besides taking some computer skill, an on-line instructor had to constantly be engaging the student with personal E-mail, interesting Internet sites and off-line materials.

3. The role of the instructor shifts when the class is offered on-line and there are few experienced ESL teachers who have actually worked in the on-line environment. Though the instructor is not responsible for "putting on" regular classes, there is a need for daily attention to all students and follow-up with those who have been absent from the on-line environment for several days. The instructor must be a natural explorer in order to be able to lead the students to the appropriate Internet resources for their individual learning needs. Finally, the instructor must master the challenge of becoming an on-line coach for the students with very few guidelines to follow in this role shift.

Discoveries

- It worked.
- Students liked it.
- It was easy to send very personalized lessons.
- Students made significant progress.
- Value added computer skills
- Going out and doing something
- Students want to continue other on-line resources and lots are available.
- Companies are willing to pay for it.
- Employees are willing to do it on their own time.
- Employees are willing to buy computers and work from home.
- Students stay connected in the beginning because they like the personal notes.

The flexibility afforded by working in a dynamic environment like the Internet has been a big advantage for the literacy student. Lessons can be designed as the student or class moves along, taking advantage of other web sites as part of the lesson. Students might be asked to go to their own company's web site and answer questions about the product they help produce. Individualized lessons can be designed for students with particular interests or problems.

Delivery Sites

Table 1- 7 details the eleven pilot sites for the distance learning project and provides more information about each site.

Distance Learning Pilot Sites

Table 1-7

Company	Support from company	Technical support at Company	Stability of Program	Location of computer in workplace	Cheerleader at company	Appropriate Selection of Students	Overall Success
Alcon	Excellent	Good	Good	Excellent	Excellent	Excellent	Excellent
Deft	Excellent	Good	Fair	Fair	Excellent	Fair	Good
3M CDI	Excellent	Poor	Fair	Excellent	Good	Excellent	Good
3M Surgical	Good	Poor	Poor	Poor	Good	Fair	Fair
Unitek	Excellent	Excellent	Good	Good	Excellent	Good	Excellent
3M Dental	Excellent	Good	Excellent	Home Computers	Excellent	Good	Good
Mallinckrodt	Excellent	Excellent	Excellent	Good	Excellent	Poor	Good
Cal Mar	Poor	None	Poor	None	Poor	Good	Limited
McGaw	Good	None	Excellent	Poor	Poor	Good	Fair
Steelcase	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Fiberite	Little	None	Excellent	Poor	None	Good	Moderate

Success Summary

A standardized reading test was given to students at the beginning and end of the program. The test used was TABE, Test of Adult Basic Education. There were 50 questions on the test and students improved 33 % in their reading skills or 1.5 grade levels.

A writing sample was taken at the beginning and end of the program. Each employee completed audio taped writing lessons and one or two E-mail writing assignments each week. An analysis of each student's writing was completed, measuring volume and sentence complexity. Based on the writing samples all employees increased their writing skills. Both word production and sentence complexity increased over 100%.

Employees rated themselves and their skills at the beginning and end of the program. There were seven areas that include reading, writing, understanding, and speaking English, working on a team, using math and solving problems. Employees rated themselves as poor, fair, good, or excellent. Every employee who completed the program rated themselves higher at the end of the program than they did at the beginning. (See Table 1-10).

There was only one question that was evaluated to assess Return on Investment or transfer of training. Supervisors were asked, "*Did this employee show an improved job performance after taking the Just-In-Time class? And if so, how?* Over 95% of the supervisors responded positively and gave specific examples.

In addition to the reading and writing skills, employers and employees reported a marked improvement in team, computer, critical thinking, and problem-solving skills. Some distance students ranked improved team skills as their top area of growth. This undoubtedly reflected their improved confidence in participating in team activities and may also have resulted from the informal collaborative learning teams that emerged at the pilot sites.

Molly works second shift. She has wanted to participate in some of our training classes, but we only offer them during the day. We let her participate in the JIT English and she really came alive. She worked on her breaks and dinner. She loved working on the Internet and found lots of useful information. Her writing skills improved and she's speaking up more offering ideas and suggestions to her co-workers.

Supervisor – Mallinckrodt Medical

...If you would have asked me if I would be interviewing Joel for an assistant supervisor 2 years ago- I would have said impossible. But today Joel was interviewed and did amazingly well. He was in the final 3 and although he wasn't selected, I know he will be trying again. His verbal communication and personal skills have greatly improved. I am surprised and pleased by the changes I see.

Supervisor – Steelcase

They formed a little learning group and have been working together to improve their skills. They are fairly diverse- young and middle aged, Hispanic and Asian and working at a variety of jobs- but they came together to improve their communication skills using Just-In-Time English and they have become a learning team.

3M Dental Human Resource Officer

She actually interviewed me. Maria had a set of questions about what it was like to be a supervisor, and she asked me each one... We really don't have time to talk too often and her insights and ideas were very interesting. She had to complete the interview for Just-In-time English and she did.

Supervisor – 3M Dental

Kim's writing has really improved. She is able to write better memos. She is making fewer mistakes and is more confident. I am really pleased with her progress.

Unitek Supervisor

I have noticed a new confidence and excitement from those participating in the Just-In-Time English classes.

3M Dental

Distance learning students liked learning very simple things like using small and capital letters, understanding word wrap, thinking of "catchy" subject titles to get the reader's attention, reading their E-mails aloud to themselves to find and correct their errors, learning when to use periods and question marks, how to format an Email so it looked nice, how to address the receiver, how to make the note friendly and polite, and learning to construct clear, concise simple sentences to express their ideas. These were the writing skills most of the JIT students worked on and improved. There was no secret discovered except the tried and true…you become a better writer by writing.

Students found Email to be a safe and interesting was to improve their writing skills—they had an opportunity to see good writing modeled. Students received encouraging and personal responses to their Emails and this engaged and encouraged them to keep on writing. The real story was told in the hundreds of Email responses that employees make during the JIT course. "It is late out. I should be going home but I wanted to write you. I wanted to tell you about what happened here tonight..." "There is a new job posting. I want to apply. I have to tun in a resume...Can you help?" "My daughter is having problems reading…What can I do to help?" "I never say anything to my co-workers. I don't think they like me. How can I start? What can I do…" JIT Email really allowed students to ask the questions they have been waiting to ask. I believe it was a great help to them!

Chris Pitchess, JobLink Distance Learning Instructor

Table 1-8

JOBLINK DISTANCE LEARNING STUDENTS	
Total number of students served	98
Total Student Hours	5,200
Average hours per student	53.1
Years of School Completed in the United States	
No Response	0%
No Schooling	28%
1 - 5 years	50%
6 - 8 years	8%
9 years	4%
10 years	5%
11 years	4%
12 or more years	1%
Years of School Completed in a Foreign Country	
No Response	0%
No Schooling	10%
1 - 5 years	13%
6 - 8 years	14%
9 years	21%
10 years	4%
11 years	3%
12 or more years	34%
Average age *[27-55]*	39
Gender (by percentage)	
Female	52%
Male	48%
No Response	0%
Race (by percentage)	
White	0%
Black/African American	0%
Asian/Pacific Islander	45%
American Indian/Alaskan native	0%
Mexican/Hispanic	51%
Other	0%
No Response	0%
US Born (by percentage)	
No Response	0%
Yes	8%
No	92%
English Spoken at Home (by percentage)	
No Response	0%
Yes	22%
No	78%
Hourly wage (average) *[$8.47 - $22.00]*	$ 12.56
Average length of employment	10 yrs. 4 mos.

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Table 1-9

Question asked:	**Responses**
In the future, do you plan to take any of the following courses?	**Plan to take***
A basic skills course in reading, writing, or math:	77%
A course in using English (such as ESL):	78%
A computer course:	83%
A GED course or the GED exam:	32%
Courses to get an occupational certificate:	51%
A job training course:	71%
Courses leading to a 2-year or 4-year college degree:	51%
A home-study course:	78%
Since this course began, have you:	**Percent* (YES)**
Learned what you wanted to learn in this course?	93%
Changed your educational or career goals?	65%
Had more responsibility added to your job?	79%
Moved to a shift you prefer?	11%
Switched from part-time to full-time?	12%
Received a pay raise?	27%
Been promoted?	20%
Received an award, bonus, or other special recognition on your job?	27%
Received your GED?	9%
Applied for a new job?	13%
Started a new job at another company?	2%
Been laid off?	2%
Left your job for any other reason?	5%

Table 1-10

When asked:

Please rate your ability to perform each of the following activities:

	Percent* of Distance students who noted improvement
Read English	53%
Understand English	43%
Speak English	43%
Write English	33%
Work as part of a team	45%
Use math	41%
Solve problems/use reasoning	49%

---

* Percent of those who responded to questionnaire.

Standardized Test Score Improvements for Distance Learning Students

Pre- and post-tested only, average number of hours of instruction is 52.4.

Table 1-11

Pre-Test	
Mean	4.8
Median	5.2
Mode	7.8
Range	9
Minimum	0
Maximum	9
Count	77

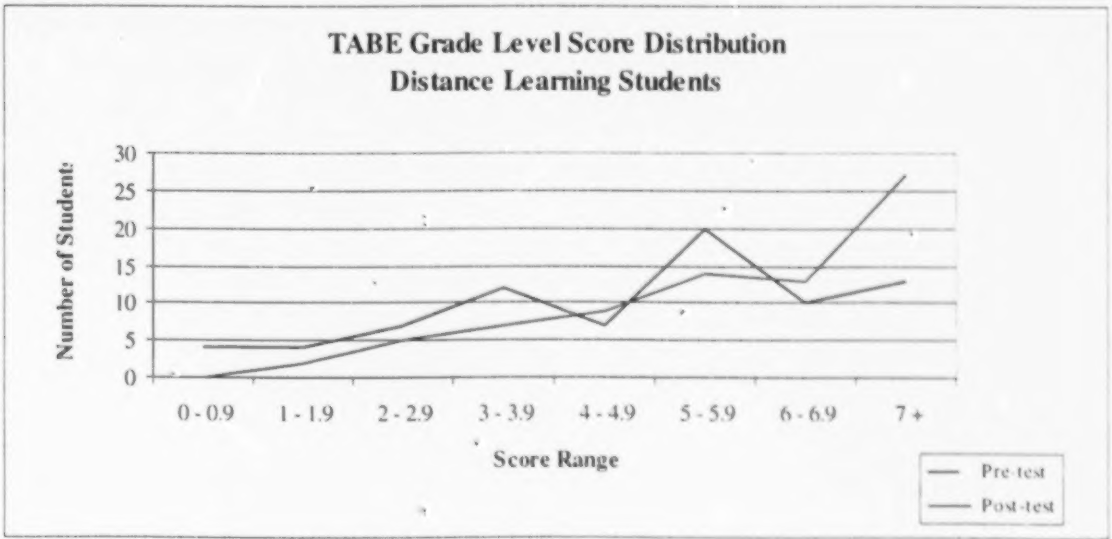
Post-Test	
Mean	6.2
Median	6.1
Mode	6.2
Range	11.1
Minimum	1.8
Maximum	12.9
Count	77

Change	
Mean (+1.4)	+ 29%
Median	1.0
Mode	1.0
Range	8
Minimum	-1.2
Maximum	6.8
Count	77

Score Distribution

		Number	
Range		***Pre***	***Post***
0 - 0.9		4	0
1 - 1.9		4	2
2 - 2.9		7	5
3 - 3.9		12	7
4 - 4.9		7	9
5 - 5.9		20	14
6 - 6.9		10	13
7 +		13	27
n=		77	77

Chart 1-5



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The following charts show score changes from pre- to post-test. These charts divide students into three pre-test score ranges: 0-2.9, 3-5.9 and 6 grade level or higher.

Chart 1-6

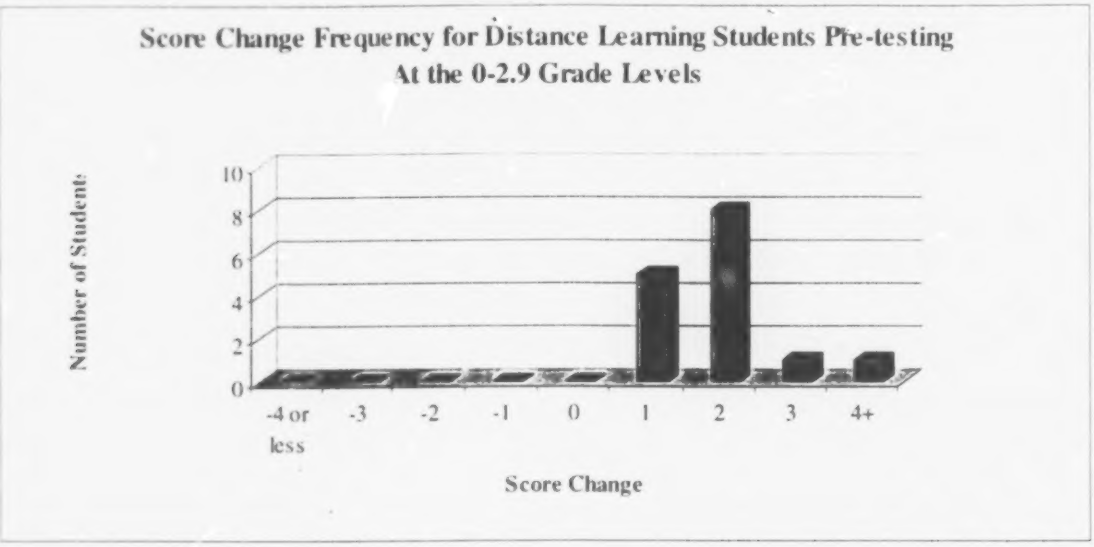


Chart 1-7

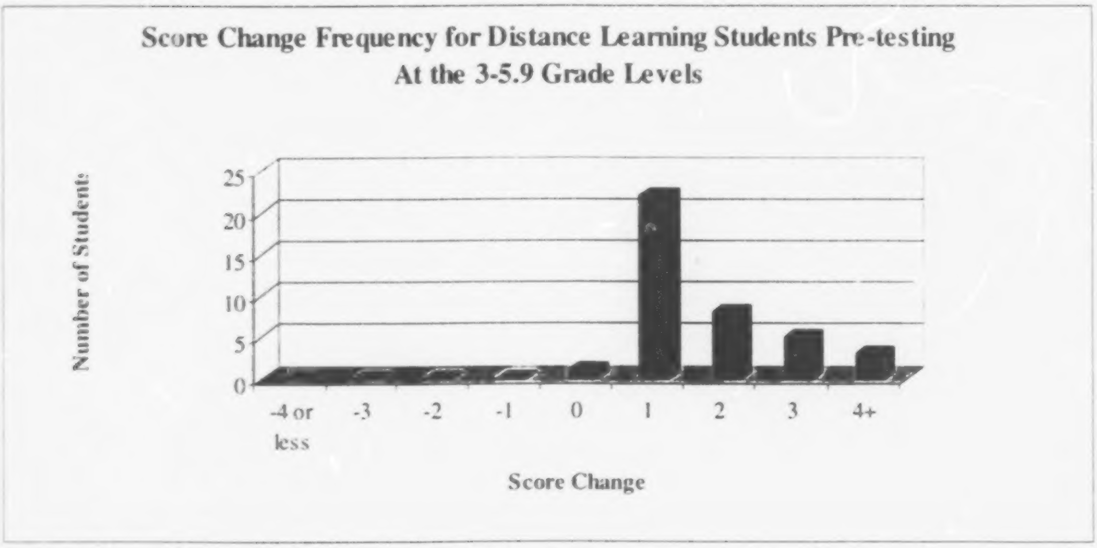
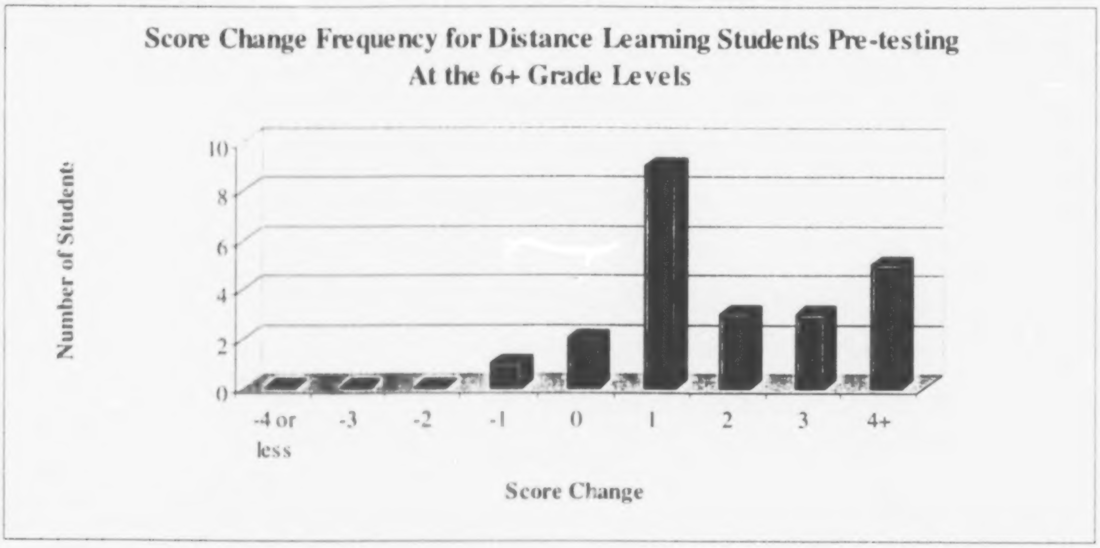


Chart 1-8



Comments

As the statistics show (and will be discussed later in Chapter 7), distance learning students were able to improve their literacy skills while working in a highly-independent, highly-sophisticated on-line environment. Thanks in part to the intuitive nature of the TopClass platform, which housed the Just in Time Communication program, students were able to obtain the computer skills they needed quickly and easily. They enjoyed on-line learning and most of them completed the entire class on their own time, after hours at their company or working from home. The retention rate for this program was 100%!

For purposes of evaluation, distance learning students can be compared to the lab students because both groups worked in a computer-mediated environment. This comparison can be found in Chapter 7 of this report.

CHAPTER 2

Work Site Training Supports Companies' Changes and Improvements

Problem

The trainers who participated in the JobLink planning sessions identified the movement towards self-directed work teams as the first factor that was changing in their environments and affecting workers with literacy problems. Total quality management and related self-directed work teams rely for their success on the employee's ability to participate actively, communicate effectively and comfortably, and recognize significant variations in statistical data.

The shift to high technology equipment and processes was the second trend discussed by the trainers. This shift means employees must have the literacy skills needed in order to be trained on new equipment. They also need higher levels of reading, writing, and computational skills to function on their changed jobs and advance in their careers.

In the past, each department in a manufacturing plant was responsible for one process. Workers performed one operation. By contrast, workers in work cells or teams produce the complete product. Instead of assembly line operations, the plant is divided into groups of teams or focus factories responsible for all phases of production. Workers must be cross-trained in each function.

Statistical Process Control (SPC) is a major part of the conversion to a Total Quality Management (TQM) environment. SPC methods ensure product quality, set specifications to meet strict customer demands, assist in tracking inventories and recording production levels. At Printronix, one of the JobLink partner companies, SPC math includes plotting whole numbers and decimal values on control chart grids, connecting plotted points on a grid to produce a line graph, measuring openings by using a filler gauge and recording results. A future job requirement that affects the level of math required for this job is the interpretation of a quality control chart or graph that contains four separate graphs (both bar and line).

Communication (oral and written) and math skills were of major concern to workers. Supervisors reported that teamwork production requires a solid foundation in math, the ability to identify problems, ask clarifying questions, discuss the problems, comprehend verbal explanations of concepts and processes, and make recommendations for solutions.

Solution

Objective 2.

Make companies more competitive by supporting company changes and improvements with focused worksite literacy training.

Task #1 Create Worksite Literacy Training Modules.

Twelve worksite training programs were developed, field-tested, and produced for distribution. The topics for these modules were chosen by the JobLink partners to reflect subjects that they felt would support the changes going on in their companies. These training modules were designed to be delivered at the work site and on work time, so they were modeled after other training programs that are used successfully at the companies. Each module covers nine hours of classroom training.

The worksite modules take a dual approach. They teach workplace literacy skills in the context of topics that are related to improving the teamwork within the organization. This makes it easier for companies to justify taking workers off the line for this training. It also makes it easier to tie the training to overall company goals and change strategies and improve transfer of training back to the job.

Each worksite module has been described in a book that is over 100 pages in length and is a self-contained instructor's guide that includes:

- Detailed Lesson Plans
- Masters for Hand-outs and Overhead Transparencies

- Materials Lists
- Pre- and Post-Tests
- Guide to companion training for supervisors

The Supervisor's guide contains lesson plans for two sessions that are used to teach the supervisors about their role in supporting, reinforcing, and transferring the training to the shop floor. These sessions are held before and after the employee training sessions.

The worksite module topics were chosen as a result of the partners' identification of each topic as valuable. In addition to using material from the job analyses, company representatives, Joblink students and company trainers contributed to the content. Whenever possible, the worksite modules use company-specific materials to supplement their contextual nature. The modules model team behaviors by using a collaborative learning approach in which students are highly participative in small groups during the training sessions. They also use a multi-modal approach, reinforcing learning in many different ways to assure its effectiveness with students, no matter what their learning style.

Ten of the modules are designed to be delivered in a traditional classroom format. Those modules have been titled "Winning at Work". Module 11 was produced as a CD ROM and Module 12 is an orientation to Distance Learning.

WINNING AT WORK

Module 1: Successful Learning Strategies: Gearing Up for Training

Learning Styles and Strategies
Better Reading to Improve Your Life
Word Power
Writing at Work
Hunting for Data and Details
Troubleshooting

Module 2: Working Together: Communicating on Teams

What's My Line?
Team Building
Defining Roles on the Workplace Team
Active Listening
Body Language--Sending Positive Messages
Pass the Picture--Effective Team Work

Module 3: Pre Statistical Process Control: Making Numbers Count (SPC)

Why Do We Use SPC?
Decimals, Percentages and Rates
Charts and Graphs
Statistical Terms
Control Charts
Putting It all Together

Module 4: English as a Second Language: Improving Basic Skills (An expandable, customized module, from 9-36 hours)

Talking to Your Coworkers: Greetings, Small Talk, Jokes
Following Written and Verbal Instructions
Writing at Work
Taking Initiative
Improving Performance
Knowing Your Company

Module 5: Active Listening and Feedback: Communicating Effectively

Assessing Your Listening Style
It's OK to Ask Questions/Letting Others Know You Understand
Overcoming Barriers to Understanding
Giving Feedback
Being Specific
Pulling It All Together--Listening, Giving, and Receiving Feedback

Module 6: Making Suggestions: Turning Ideas Into Action

Looking for Better Ways of Doing Things
Getting Information to Support Your Ideas
The Importance of Planning
Designing Clear and Concise Messages
Putting Ideas on Paper/Preparing Presentations
Selling Your Ideas

Module 7: Solving Problems: Finding Solutions that Work
- Brainstorming--What's the REAL Problem?
- Cause and Effect Analysis
- Identifying Potential Causes (and Obstacles)
- Ranking Priorities (Analyzing ROI)
- Designing Corrective Action Plans
- Presenting Your Solutions

Module 8: Conflict Resolution: Getting Along in the Workplace
- Identifying Conflict:
  - Constructive and Destructive, Gender and Culture Differences
  - Body Language and Body Reactions
- Having a Win-Win Mindset
- Speaking and Listening Constructively
- Fighting Fair
- Taking Steps Toward Reconciliation
- Heading Off Conflict at the Pass

Module 9: Math Basics: Building a Foundation
- Estimating and Rounding
- The English and Metric system
- Discovering Fractions
- Discovering Decimals
- Rates, Ratios, Proportions, and Percents
- The Calculator

Module 10: Speaking Clearly: Improving Pronunciation
- Get Started
- Sentence Sense
- Intonation
- Progress Check
- Difficult Vowel and Consonant Sounds
- Where Have You Been and Where are You Going?

A sample of activities from the worksite modules can be found in Appendix E.

Brochures detailing each worksite module are found in Appendix I.

Module 11: Measuring At Work. This module was developed in CD-ROM format. The JobLink partners decided that metrology was the topic to be covered: Basic math used for measurement and the measurement tools most commonly used on the manufacturing floor, beginning with the caliper.

In analyzing the problems most often encountered by literacy students in measurement training, several themes occurred:

- Literacy students needed to move slower than other worker/students.
- Literacy students needed to review material several times before they were sure of it.
- The gap of time between when workers learned to use a measurement tool and actually used it on the job seems to be more detrimental to the literacy student.
- Basic vocabulary problems could keep the student from learning the math needed for the measurement process.

To solve these problems, this module uses multimedia (CD-ROM) to give the literacy student the ability to set his/her own pace, repeat material as many times as needed, and access a glossary to help with vocabulary problems. All narrative in the module was written at a 5-7 grade level and is delivered in a slow, clear narration. The on-line glossary supports the student's development of new vocabulary that is appropriate for this topic. The literacy skills incorporated in the module include: Vocabulary, Listening and Following Directions, Mathematics (particularly use of decimals), and Problem Solving. It also includes a tutorial/refresher that covers the math skills necessary for accurate measurement.

The typical literacy student can complete this module in 30-90 minutes. Many students chose to repeat the module several times and every student is free to move through the module segments in any order (and as many times) as he/she chooses. Employees at Steelcase who had taken similar training in a stand-up format but were unable to pass the post-test, were successful after using the CD-ROM version designed by JobLink. During the field testing in Grand Rapids, Michigan (at Steelcase headquarters), the module was used successfully by literacy students and by students with learning disabilities.

MEASURING AT WORK:

Using a Digital Caliper

CD-ROM Contents

About this Tool

Background on the history of the caliper and a brief description of the dial, vernier and digital calipers with labels of all the features.

Using this Tool

Includes step-by-step directions for inside, outside, step and depth measurements.

When to Use this Tool

Guidelines for determining when the caliper is the correct tool for the job.

Safety and Handling

Includes two videotaped segments of caliper users at Steelcase discussing the types of issues that are important to consider when using the tool on a daily basis.

Reducing the Error Factor

Covers precision, calibration, verification, manipulation, work piece geometry, care of tool, removing dirt or burrs, and the parallax effect.

Try it! (A Virtual Caliper)

A fully functional caliper on the screen gives students practice operating the various features of the tool and performing the operations in the correct order.

Module 12: Introduction to Distance Learning. The last worksite module to be developed was an Introduction to Distance Learning. This was designed as a face-to-face kickoff for students who participated in the distance learning program. It provides the instructor an opportunity to complete some pre testing and gives students a chance to meet their on-line instructor, complete a hands-on, on-line lesson, *First-Things-First,* and receive their off-line distance learning kits. **The course outline for this module, along with specific notes for introducing literacy students to distance learning, are found in Appendix D.**

Challenges and Discoveries

Regarding the traditional worksite training modules:

Workers with limited literacy skills need convenient opportunities to make long-term improvements in literacy. They also need the immediate opportunity to learn what is needed to keep up with their jobs and changes in their companies. The worksite approach that we initiated to help literacy student/workers become better team members can also be applied to other training needed by today's workforce. The approach of choosing a context in the literacy training that supports changes that are occurring in the company and teaching the two sets of skills concurrently provides a powerful learning package. The training must be true to the topic at hand AND use techniques that we know will work with literacy students.

Regarding the multimedia training module:

This was an experiment from which we learned a great deal. From the companies' perspective, a training module that can be used by individuals on a "just-in-time" basis is very attractive. From the student's perspective, even without the special literacy emphasis of the module, it becomes more learner-friendly for the literacy student because of its audio features and because the student can control the pace and speed of the instruction.

Regarding the distance learning orientation module

It is widely accepted among distance learning professionals that a face-to-face meeting at the beginning and end of an on-line class can be critical to the success of that class, even if the meeting is not directly with the teacher of the class!

- If instructor meets with the students at the beginning of the course, a rapport is established and allows for a more personal instructional experience.
- If distance learning students do not get on-line at least 2 or 3 times during the first week of class they will probably not succeed with distance learning. It is critical that students get comfortable and confident with Internet-based learning and begin to form a habit of getting on-line regularly.
- Beginning lessons should be very simple and lead to positive, successful experiences.

- Equipment at both ends needs to be working!
- Identify an on-site contact (like a human resource assistant) that you include in the course. Make sure they understand the program and give them an E-mail address and stay in touch with them every week. They will be an invaluable help in the success of the course.
- If a student does not respond to E-mail quickly (in a day or two), the instructor should give the student a call to make sure everything is okay.

Task #2 Deliver 20 Worksite Modules Per Month at Companies.

The worksite modules were field tested by being delivered at 20 companies during the course of the project. These companies included the JobLink partners and a number of other companies that were designated by the grant as sites. Instructors provided feedback on the modules and modifications were made to incorporate their suggestions and ideas. Student feedback and suggestions were also used to design improvements to the modules. This continuous improvement process went on during the entire length of the project.

The following companies served as field-test sites for the worksite modules:

3M Healthcare – CDI
3M Dental
3M Surgical
Azon Corp.
C & C
Deft
Dynacast
General Monitors
Hi Shear
Ingram Micro
M-Flex
M.C. Gill
Mallinckrodt
Master Halco
McGaw
MD Pharmaceuticals
Newport Corp.
Rosemount
Steelcase
The Orange County Register

Challenges

Although we delivered our targeted number of modules, the number of workers served was lower than projected in our original application. We based our proposal projections on an average class size of 20 students. In reality, this class size was too large for two reasons: The level of student we served required smaller classes, and companies wanted to reduce the number of people they took off the line for training at any one time. The number of classes we planned to deliver was 400. The actual number of classes delivered were 400 including 14 classes which were delivered as field test classes for Module 12: Orientation to Distance Learning. The number of students we planned to serve was 8,000. The actual number of students (duplicated count) in worksite modules was 4,052. This reflects a class size of approximately ½ the original projected class size of 20.

Discoveries

- After workers received approximately 30-40 hours of training in the worksite modules, their supervisors began to notice and spontaneously comment on changes in behaviors on the job. These changes usually involved the employee speaking up more in meetings with peers and supervisors, increases in the number and type of questions asked by the employees, and more self confidence. As will be seen in the results section of this chapter, we have tried to verify this 30-40-hour improvement point with some of our evaluations.

- Students who had previously participated in traditional Vocational ESL classes were very enthusiastic about taking the worksite modules. The modules are designed much like the traditional training programs that are taught to all employees in companies in that they are taught on-site in the training room and are presented in short (1.5 hour long) training periods. This helped remove the onus of going to a "reading" class or a "math" class. Students often said they were going to a problem solving class or a teamwork class. Also, modules are highly interactive and activity-based, requiring a lot of small group work. Students seem to enjoy the change of topic and pace from the traditional VESL class format.

- Several successful modes of delivery emerged as different class configurations were tried out during the field testing. With lower level students, worksite module lessons were alternated with lessons from Module 4, the Vocational ESL module. This gave students a chance to absorb the information provided and gave the instructor the opportunity to integrate company-specific information and materials into alternate Module 4 classes.

- Another delivery mode that worked very well was to hold one 1.5 hour long class meeting per week on company time and require students to also attend the after-work lab for 1.5 hours a week of individualized study. This was tried on a voluntary basis at three companies and was very popular and successful. In two instances, the worksite teachers were also Lab teachers, so they were able to design homework assignments for the students to complete at the Lab and then be on hand to assist students during their Lab visits. (See the Results Section)

- The companion Supervisor modules were an important part of the worksite training programs. In one company where two sessions of classes that lasted five months each were offered, supervisors met on a biweekly basis to learn about the content of the classes and discuss student progress and transfer of training. At other companies, the pre- and post-meetings that are outlined in the training manuals were used. Both approaches seemed to benefit both supervisors and students in two ways. Supervisors were able to ask questions about class topics and reinforce what was being learned. Employees/students did not have to answer questions like, "What are you doing in that class anyway?"

Success Summary

- Twelve worksite modules were developed and field tested and are ready for dissemination.
- One worksite module, "Measuring at Work" was produced in a CD-ROM format.
- 400 worksite module field–test classes were delivered at companies to 821 workers/students.
- Students received 35,587 hours of worksite training.
- Worksite module students improved an average of 0.6 grade levels for 39 hours of training and learned valuable teamwork skills along with improved literacy skills.
- All 12 modules proved to be highly popular and successful. All sites were encouraged to start with module 1, ***Successful Learning Strategies***, to lay a foundation for student success. Several popular grouping of modules emerged:
  - For companies in the early stages of team building:
    Module 1: Successful Learning Strategies: Gearing Up for Training
    Module 2: Working Together: Communicating on Teams
    Module 6: Making Suggestions: Turning Ideas Into Action
    Module 7: Solving Problems: Finding Solutions that Work
  - In companies with problems of team and interpersonal conflict:
    Module 5: Active Listening and Feedback: Communicating Effectively
    Module 8: Conflict Resolution: Getting Along in the Workplace
    Module 7: Solving Problems: Finding Solutions that Work
  - In companies preparing to begin or improve an SPC program or preparing for ISO 9,000 certification.
    Module 1: Successful Learning Strategies: Gearing Up for Training
    Module 2: Working Together: Communicating on Teams
    Module 9: Math Basics: Building a Foundation
    Module 3: Pre Statistical Process Control: Making Numbers Count (SPC)

Results

This table shows the student population that received worksite modules[1].

Table 2-1

JobLink Worksite Module Students

Total Duplicated Enrollments		3,954
Actual number of students served (Unduplicated Student Count)		723
Total Student Hours		35,587
Average hours per student		49.22
Years of School Completed in the United States	No Response	43%
	No Schooling	18%
	1 - 5 years	20%
	6 - 8 years	4%
	9 years	2%
	10 years	1%
	11 years	1%
	12 or more years	11%
Years of School Completed in a Foreign Country	No Response	34%
	No Schooling	4%
	1 - 5 years	10%
	6 - 8 years	14%
	9 years	7%
	10 years	6%
	11 years	5%
	12 or more years	21%
Average age *[20-76]*		38
Gender	Female	46%
	Male	51%
	No Response	3%
Race		
	White	7%
	Black/African American	1%
	Asian/Pacific Islander	32%
	American Indian/Alaskan-native	0%
	Mexican/Hispanic	53%
	Other	3%
	No Response	4%
US Born		
	No Response	4%
	Yes	11%
	No	85%
English Spoken at Home		
	No Response	7%
	Yes	24%
	No	69%
Hourly wage (average) *[$4.25 - $28.85]*		$ 10.74
Average length of employment		7 yrs. 11 mos.

---

[1] Does not include "Measuring at Work" CD-ROM or the Distance Learning Orientation.

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Table 2-2

Question asked:	**Responses**
In the future, do you plan to take any of the following courses?	**Plan to take**[*]
A basic skills course in reading, writing, or math:	83%
A course in using English (such as ESL):	80%
A computer course:	75%
A GED course or the GED exam:	58%
Courses to get an occupational certificate:	50%
A job training course:	62%
Courses leading to a 2-year or 4-year college degree:	58%
A home-study course:	48%
Since this course began, have you:	**Percent (Yes)**
Learned what you wanted to learn in this course?	93%
Changed your educational or career goals?	72%
Had more responsibility added to your job?	60%
Moved to a shift you prefer?	41%
Switched from part-time to full-time?	13%
Received a pay raise?	24%
Been promoted?	19%
Received an award, bonus, or other special recognition on your job?	19%
Received your GED?	11%
Applied for a new job?	10%
Started a new job at another company?	6%
Been laid off?	2%
Left your job for any other reason?	2%

Table 2-3

When asked:

Please rate your ability to perform each of the following activities:

	Percent of worksite students who noted improvement
Read English	37%
Understand English	23%
Speak English	30%
Write English	35%
Work as part of a team	17%
Use math	35%
Solve problems/use reasoning	26%

---

[*] Percent of those who answered this question.

Standardized Test Score Improvements for Worksite Students:

Shown by grade level. - Average number of hours of instruction is 38.8.

Table 2-4

Pre-test	
Mean	3.1
Median	2.7
Mode	2.3
Range	6.9
Minimum	0.0
Maximum	6.9
Count	244

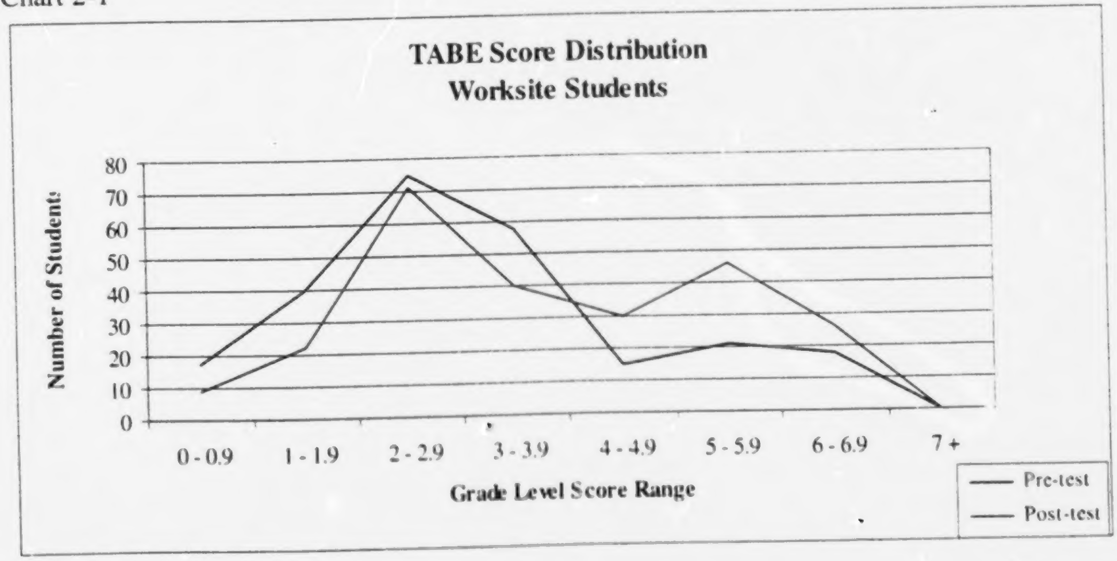
Post-test	
Mean	3.7
Median	3.4
Mode	6.9
Range	6.9
Minimum	0.0
Maximum	6.9
Count	244

Change	
Mean (+0.6)	+ 21%
Median	0.5
Mode	0.0
Range	5.8
Minimum	-1.5
Maximum	4.3
Count	244

Grade Level Score Distribution

		Number	
Range		***Pre***	***Post***
0 - 0.9		17	9
1 - 1.9		40	22
2 - 2.9		75	71
3 - 3.9		58	40
4 - 4.9		15	30
5 - 5.9		21	46
6 - 6.9		18	26
7 +		0	0
n=		**244**	**244**

Chart 2-1



The following charts show grade level score changes. Students are grouped in three pre-test score grade level ranges: 0-2.9, 3-5.9 and 6 or higher.

Chart 2-2

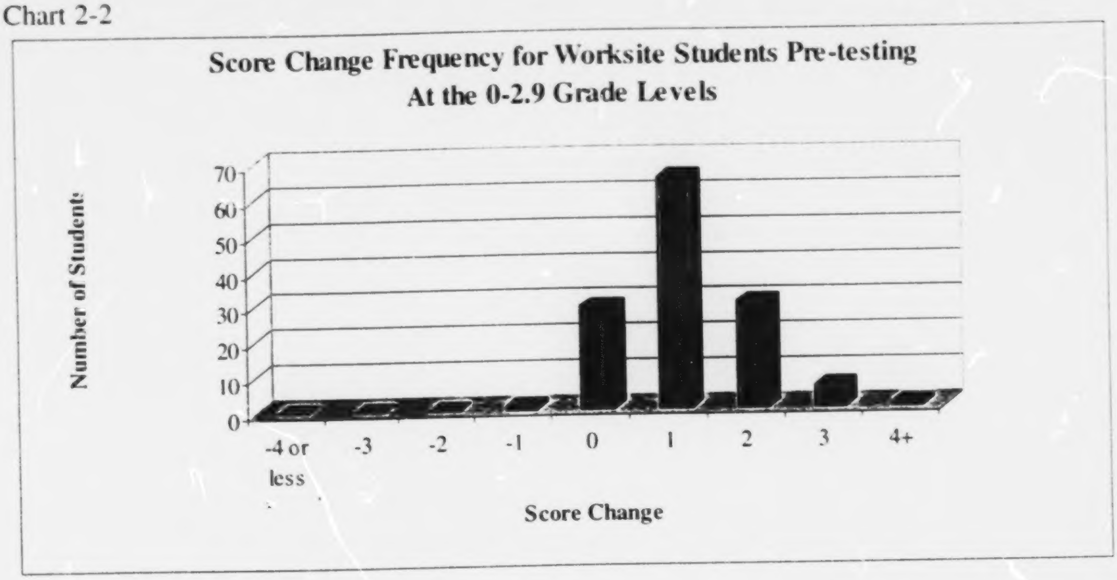
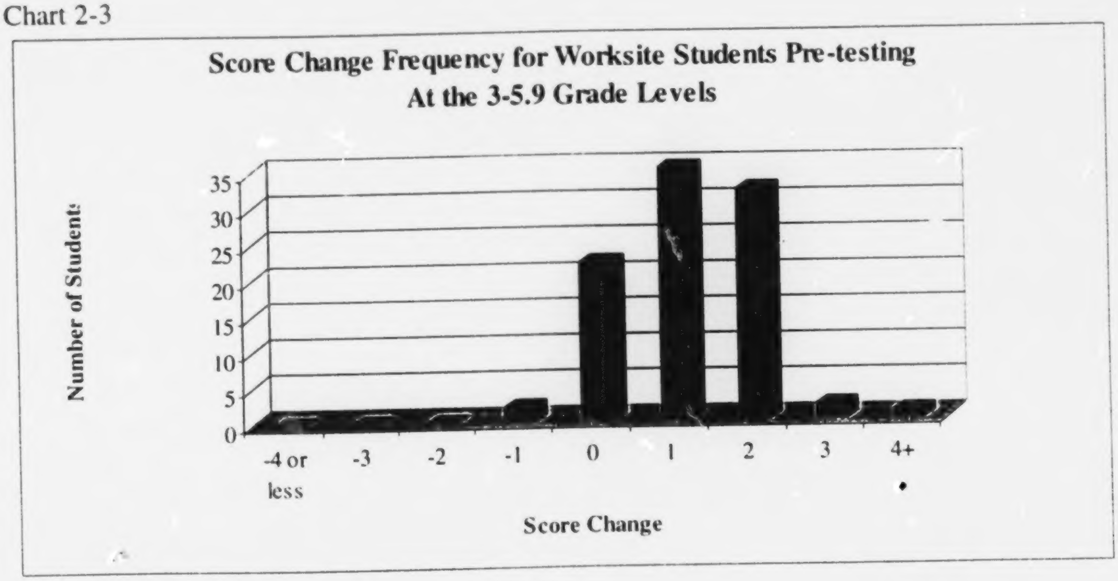
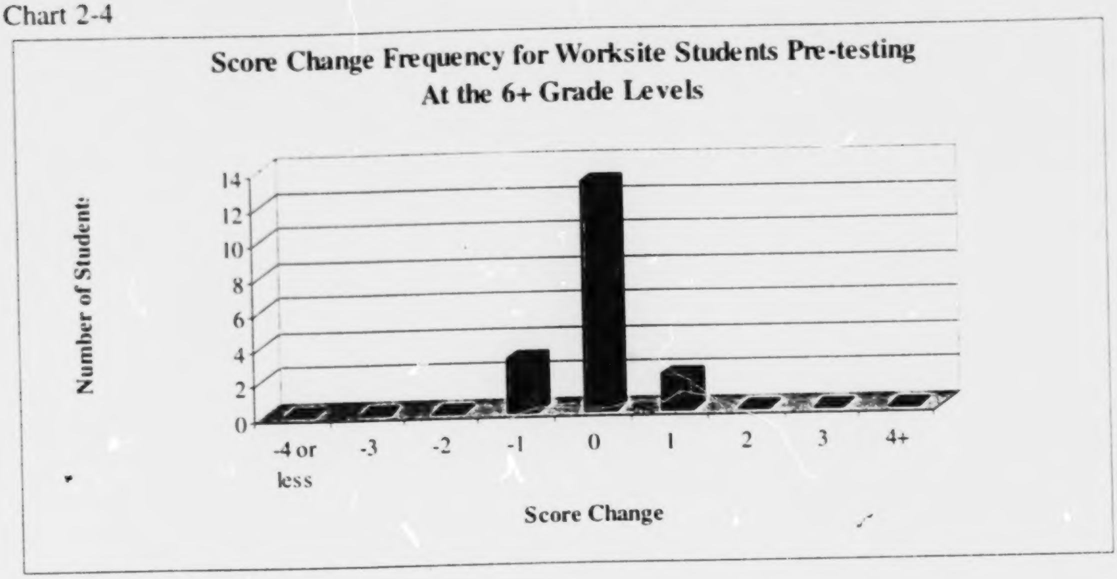


Chart 2-3



100

Chart 2-4



Comments

As the statistics indicate, worksite module students were able to improve their literacy skills while also learning the skills required to work on teams. Spontaneous feedback from the companies and supervisors of worksite module students indicated that a noticeable improvement in work-related behaviors occurred after 30-40 hours of training. In an attempt to study and validate that improvement, the following statistics have been prepared. This data contrasts those worksite module students who have received more than 30 hours of training with those who received less than 30 hours of training.

Comparison of Worksite Students With More Than 30 Hours of Training.

Since we often received unsolicited reports of improved job performance from companies whose employees passed the 30 hour mark in their worksite training, we decided to explore differences in students who received more than 30 hours of worksite module training.

Worksite Students who Received Over 30 Hours of Instruction Compared to Students Who Received Less Than 30 Hours of Instruction

Table 2-5

Question asked:

In the future, do you plan to take any of the following courses?

	"Plan to take"	
	< 30	> 30
A basic skills course in reading, writing, or math:	92%	83%
A course in using English (such as ESL):	93%	85%
A computer course:	86%	80%
A GED course or the GED exam:	46%	52%
Courses to get an occupational certificate:	62%	66%
A job training course:	64%	71%
Courses leading to a 2-year or 4-year college degree:	62%	50%
A home-study course:	38%	63%

Since this course began, have you:	Yes	
	< 30	> 30
Learned what you wanted to learn in this course?	100%	95%
Changed your educational or career goals?	62%	65%
Had more responsibility added to your job?	86%	67%
Moved to a shift you prefer?	43%	18%
Switched from part-time to full-time?	7%	9%
Received a pay raise?	36%	26%
Been promoted?	14%	15%
Received an award, bonus, or other special recognition on your job?	15%	17%
Received your GED?	7%	6%
Applied for a new job?	0%	9%
Started a new job at another company?	7%	5%
Been laid off?	0%	3%
Left your job for any other reason?	0%	0%

Table 2-6

When asked:

Please rate your ability to perform each of the following activities:

	Noted improvement	
	< 30	> 30
Read English	21%	45%
Understand English	11%	33%
Speak English	21%	30%
Write English	16%	36%
Work as part of a team	29%	37%
Use math	22%	33%
Solve problems/use reasoning	18%	33%

Standardized Test Score Improvements:

By Grade Level

Table 2-7

	Pre Test	
	< 30	*> 30*
Mean	2.9	3.1
Median	2.45	2.8
Mode	2	2.3
Range	6.3	6.9
Minimum	0	0
Maximum	6.3	6.9
Count	38	244

	Post Test	
	< 30	> 30
Mean	3.3	3.8
Median	2.85	3.7
Mode	2.5	6.9
Range	6.1	6.9
Minimum	0.8	0.0
Maximum	6.9	6.9
Count	38	244

	Change	
	< 30	> 30
Mean	16%	21%
Median	0.4	0.6
Mode	0.0	0.0
Range	2.5	5.8
Minimum	-0.5	-1.5
Maximum	2	4.3
Count	38	244

The most notable difference in the two groups of students with regards to changes that occurred in their work lives after the training began was in the much smaller percentage of students in the over 30-hour group that received a pay raise or had more responsibility added to their jobs. Although they were more likely to be interested in a self study course, the over 30 hour group was less interested in taking a college class!

In their self assessments, the students that had received more training rated their improvements in all classes significantly higher than their counterparts. This could indicate improved self confidence and would explain the changes in job behavior (speaking up more, asking more questions, improved ability to follow directions) that were noticed after 30 hours of worksite training.

The standardized test score improvements (TABE) of the group of students receiving over 30 hours of training were 0.2 grade level or 5% more improved than their counterparts who had less than 30 hours of training. This is interesting since the 30-hour mark was the point at which co-workers and supervisors began to notice a change in job-related performance. The absence of a significant difference in standardized test score improvements at this point suggests that there is no connection between students' improved job performance and their test scores. Though this is an admittedly limited study, it suggests that job-related literacy skills do not correspond with skills that can be measured on standardized tests.

Discoveries

The improved success of worksite students who also attended the JobLink Lab is detailed in the following section. These students spent an average of 71.1 hours in the JobLink Lab and received an average of 41.8 hours of worksite instruction. Their overall hour average was 112.9. They are compared with worksite only students who received an average of 50 hours of instruction.

Table 2-8

Question asked:	Responses[2]	
In the future, do you plan to take any of the following courses?	***"Plan to take"****	
	Worksite only	**Worksite and Lab**
A basic skills course in reading, writing, or math:	84%	97%
A course in using English (such as ESL):	87%	97%
A computer course:	81%	89%
A GED course or the GED exam:	51%	58%
Courses to get an occupational certificate:	65%	52%
A job training course:	70%	57%
Courses leading to a 2-year or 4-year college degree:	52%	35%
A home-study course:	58%	59%
Since this course began, have you:	**W**	**W&L**
Learned what you wanted to learn in this course?	96%	97%
Changed your educational or career goals?	64%	75%
Had more responsibility added to your job?	70%	74%
Moved to a shift you prefer?	23%	15%
Switched from part-time to full-time?	9%	12%
Received a pay raise?	28%	16%
Been promoted?	15%	12%
Received an award, bonus, or other special recognition on your job?	16%	9%
Received your GED?	6%	12%
Applied for a new job?	8%	12%
Started a new job at another company?	5%	0%
Been laid off?	3%	0%
Left your job for any other reason?	0%	0%

---

[2] The responses in this table differ from the ones shown in Table 2-1.

* Percent of those who answered this question.

Table 2-9

When asked:

Please rate your ability to perform each of the following activities:

	Percent of students who noted improvement	
	W	**W & L**
Read English	37%	55%
Understand English	23%	52%
Speak English	30%	56%
Write English	35%	49%
Work as part of a team	17%	45%
Use math	35%	45%
Solve problems/use reasoning	26%	41%

TABE Results

Table 2-10

Pre-test		
	W	**W&L**
Mean	3.1	2.9
Median	2.7	2.6
Mode	2.3	2.4
Range	6.9	7.4
Minimum	0.0	0.0
Maximum	6.9	7.4
Count	244	101

Post -test		
	W	**W&L**
Mean	3.7	4.2
Median	3.4	4.1
Mode	6.9	6.9
Range	6.9	12.9
Minimum	0.0	0.0
Maximum	6.9	12.9
Count	244	101

Change		
	W	**W&L**
Mean	+ 0.6	+ 1.3
Median	0.5	0.7
Mode	0.0	0.0
Range	5.8	8.5
Minimum	-1.5	-1.4
Maximum	4.3	7.1
Count	244	101

Score Distribution (Worksite and Lab)			
		Number	
Range		***Pre***	***Post***
0 - 0.9		4	2
1 - 1.9		16	9
2 - 2.9		38	20
3 - 3.9		28	16
4 - 4.9		6	21
5 - 5.9		6	14
6 - 6.9		2	15
7 +		1	4
n=		**101**	**101**

Chart2-5

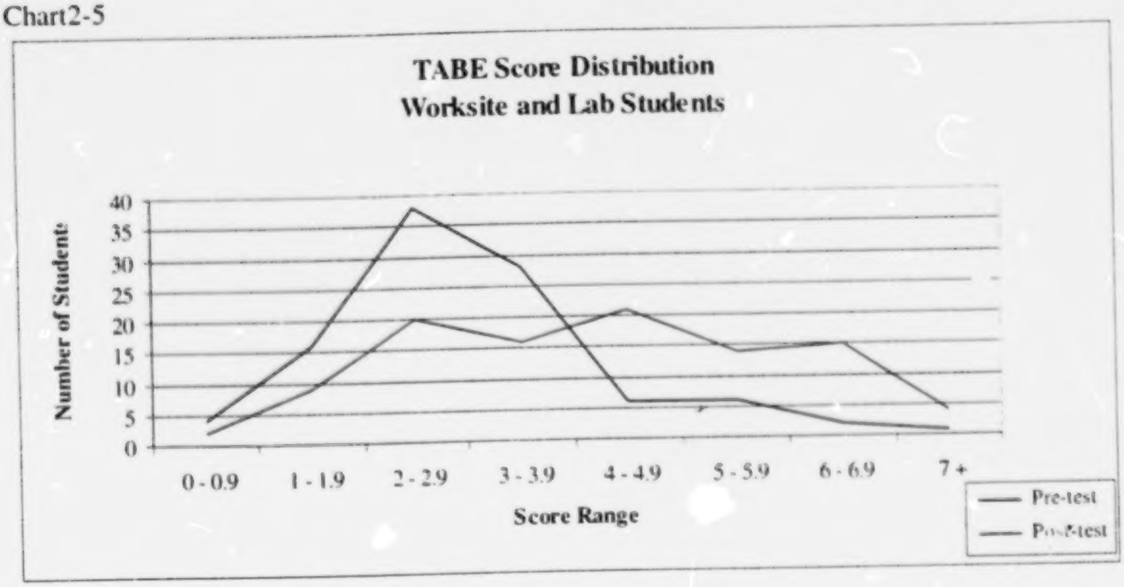
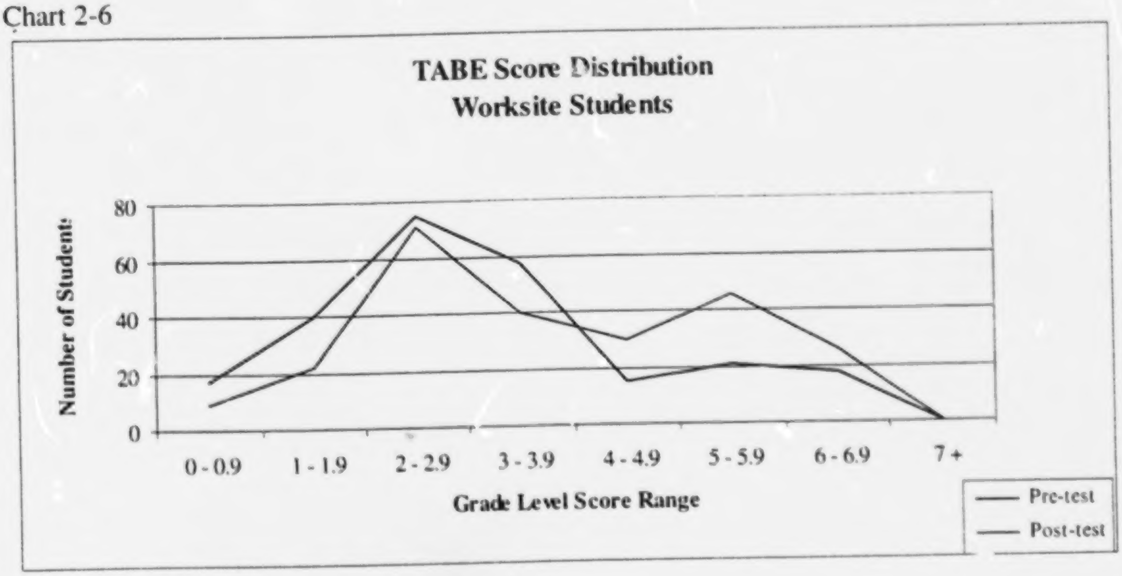


Chart 2-6



Although it may appear that students made more improvements if they attended the Lab while they were involved in worksite modules, the difference in success may be entirely attributable to the additional hours of study on the part of students who also attended the lab. In Table 2-11, which compares the work site training at six different companies, we see that the TABE score improvements at Companies B and D are similar. Students at these two companies

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received the same amount of training. Students at Company D had worksite and lab training combined, while students at Company B had only worksite training. The performance of the two groups differs by only 6% for the students that attended both worksite and lab. From this we would conclude that there was a slight advantage to students who participated in lab training while they were also taking work site modules. Most of the improved performance of these students was a result of the additional total time spent in training rather than the mode of training.

Further Discoveries

Since there was a difference in success of work site students at various company sites that could not be explained by the number of hours in training or the entry level scores of those students, we examined numerous student characteristics hoping to find an explanation for these differences by site.

As can be seen from the chart that follows, only three factors appear to correspond consistently with increased student success: More than 12 years of Schooling in the United States, English Spoken at Home, and US Born. The two companies (Company C and Company G)in the study that showed greatest student improvements (as measured by standardized TABE scores) also had significantly higher percentages of students with 12 or more years of school completed in the United States. One of the companies (Company B) also had a higher percentage of students who spoke English at home and were born in the US than the other companies in the study.

Both of these companies had lower average hours per student of training than the other companies in the study. Though this seems reversed from what we would normally expect, there may be another explanation. These two companies may have decided to schedule less training because their employees made progress more quickly, i.e. further training was seen as unnecessary.

Table 2-11

JobLink Companies

	A	B	C	D	E	F	G
Total number of students served	46	88	31	59	341	52	74
Total student hours	2,106	3,055	771	2,261	13,334	1,610	1,898
Average hours per student	45.8	34.7	24.9	38.3	39.1	31.0	25.6
Average Entry Level TABE Score	5.5	4.4	3.2	3.2	2.8	2.8	3.1
Average TABE score improvement	16%	13%	52%	19%	39%	21%	48%
Average length of employment	8 yrs	9 yrs	7 yrs	8 yrs	9 yrs	7 yrs	7 yrs
Years of School Completed in the United States							
No Response	9%	82%	26%	34%	35%	69%	24%
No Schooling	30%	1%	19%	25%	22%	10%	16%
1 - 5 years	46%	9%	6%	24%	22%	12%	24%
6 - 8 years	4%	2%	6%	3%	6%	2%	9%
9 years	0%	1%	3%	5%	2%	2%	1%
10 years	2%	0%	0%	0%	4%	2%	3%
11 years	0%	0%	0%	2%	2%	0%	1%
12 or more years	9%	5%	39%	7%	7%	4%	20%
Years of School Completed in a Foreign Country							
No Response	13%	85%	35%	24%	24%	47%	30%
No Schooling	2%	0%	3%	3%	4%	0%	1%
1 - 5 years	13%	3%	10%	15%	16%	4%	4%
6 - 8 years	4%	0%	13%	22%	19%	8%	14%
9 years	4%	0%	10%	3%	7%	4%	5%
10 years	11%	5%	6%	7%	6%	2%	9%
11 years	15%	1%	3%	5%	4%	4%	4%
12 or more years	37%	6%	19%	20%	19%	31%	32%
Average age	39	36	42	43	41	35	39
Gender (by percentage)							
Female	66%	65%	16%	83%	64%	59%	62%
Male	30%	35%	84%	14%	35%	41%	36%
No Response	4%	0%	0%	3%	1%	.0%	1%
Race (by percentage)							
White	2%	9%	42%	0%	2%	2%	5%
Black/African American	0%	0%	0%	0%	0%	0%	4%
Asian/Pacific Islander	84%	62%	6%	22%	18%	46%	55%
American Indian/Alaskan native	0%	0%	0%	0%	0%	0%	0%
Mexican/Hispanic	4%	28%	48%	73%	74%	48%	32%
Other	2%	1%	3%	2%	4%	4%	1%
No Response	7%	1%	0%	3%	2%	0%	3%
US Born (by percentage)							
No Response	4%	1%	0%	5%	2%	2%	3%
Yes	0%	15%	35%	3%	10%	2%	16%
No	96%	84%	65%	92%	88%	96%	81%
English Spoken at Home (by percentage)							
No Response	4%	3%	3%	8%	3%	2%	8%
Yes	24%	25%	45%	15%	23%	8%	27%
No	72%	72%	52%	76%	74%	90%	65%
Hourly wage (average)	$ 12.2	$ 13.5	$ 20.3	$ 9.4	$ 10.5	$ 7.2	$ 8.5

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CHAPTER 3

Involving Supervisors in Training Programs

Problem

The supervisor plays an important role in the daily life of the worker in a manufacturing company. In determining priorities and schedules for their workers, supervisors have to balance production quotas and goals with the need for programs that might take the worker off the line, such as training programs.

Company trainers reported that line supervisors hold employees back from training and fail to pass along information about training programs to their employees. When information does get to workers, their supervisors often discourage them from attending or make it difficult for them to attend. Even in after-work or half-work time programs, supervisors sometimes assign overtime and make it difficult for employees to attend classes.

Leads may feel threatened by workers who improve their literacy skills and become more competent than their Leads. In companies where the Leads are the only bilingual employees, their status (and job security) may be tied to the fact that their employees need them to serve as translators.

Supervisors said that they feel "caught in the middle" between implementing the company's continuous process improvement initiatives and their bottom-line responsibility of maintaining product quality and productivity.

Studies have shown that the supervisor is the key person in the transfer of learning from the training room to the production floor! Retention of workers in workplace training is a pivotal factor for program success. Focus group participants suggested these solutions:

- Offer voluntary workshops for supervisors to get their support for the project.
- Build company recognition programs acknowledging workers' participation.

At the same time, make sure employees know that their confidentiality is protected at all times. Employees should always understand how and why supervisors are being included in the project

Solution

OBJECTIVE 3.

Increase employee success in literacy training by improving organizational support and motivation for trainees, resulting in an average retention rate of 65% in voluntary programs.

There are two reasons for designing components of the project specifically for supervisors. One reason is to improve the transfer of training to the work floor or line. The second reason is to improve the longevity and success of students by increasing the amount of support they receive from their supervisors.

Task #1 Involve an average of two supervisors from each partner company in planning training modules and employee reward and recognition programs and in reinforcing training on-the-job.

The original plan for a Supervisor's Club to keep the supervisors up-to-speed with project activities was implemented during the second year of the program. Five lunch meetings were held, with an average attendance of 12 people. Supervisors also participated in the Anniversary Celebration of Students in August, 1996, and the Student Graduation in summer, 1997, assisting with rewards for students, recognizing them for their efforts in the JobLink Lab and worksite training programs.

Topics for the Supervisor's Lunch Meetings included: The Supervisor's Role in the Team Organization (two meetings), Multimedia Presentations, Motivating Employees, and Organizing the Physical Environment to Support Teams. These topics were chosen to be of high interest to the supervisors (so they would come!) and to complement the JobLink program, so we could use the lunches to discuss JobLink goals and services and educate supervisors about literacy training. Both functions seemed to work well.

Supervisors from several of the partner companies participated in the job analyses and the development of initial curriculum modules for the JobLink Lab. Steelcase supervisors and trainers worked very closely with JobLink in the development of the Metrology worksite module, which was formatted as a CD-ROM. They offered suggestions and allowed JobLink instructional designers to visit training programs and see materials used for the training. This allowed us to make the module similar to their classroom training while using multimedia (especially audio) to create an effective literacy training piece.

Task #2 Special workshops for supervisors will be designed to improve their ability to work effectively with employees who have literacy problems.

Supervisor's requests drove this part of the program, which became closely connected to the worksite modules. When a company offered worksite modules to its employees, the instructor or someone from JobLink met with supervisors for one hour at the beginning and end of each (nine-hour long) module. During these sessions, supervisors learned about the content of the module, were coached on ways to encourage employees and improve transfer of training, and helped assess the Return-On-Investment for training.

During a year of worksite training at McGaw, supervisors attended special training programs offered for them every other week while training was in progress. During these sessions they discussed the content of the training sessions and how supervisors could promote transfer of training. They offered suggestions for the Return on Investment (ROI) surveys and discussed the results of those surveys. The supervisors became an important link for the instructors and the JobLink staff, influencing information that was included in the training program. Involving the supervisors in the training and the training materials contributed to a greater "buy in" for the supervisors. The exposure to the training content gave the supervisors the information they needed so they could ask their employees appropriate questions about the training and to give the employees feedback on how the skills were used back on the job.

Another benefit of the McGaw supervisor meetings was feedback on the worksite modules, some of which were being taught for the first time at McGaw. This feedback, along with comments from the instructors who were field-testing the modules, provided valuable information for the revision and continuous improvement of those modules.

This list of supervisor sessions held during 1996 typifies the type of ongoing contact that was maintained with supervisors during the project.

3M Dental Products

- One session with plant manager and supervisors to discuss literacy and related training, attendance: 7.
- One session with quality supervisor to discuss ROI.
- One session with supervisors to discuss topics for worksite modules, attendance: 16.
- Two meetings with plant manager and 15 supervisors to discuss training plan.
- Meeting with training coordinator and Orientation Program Team to discuss approach for developing multimedia orientation for employees.
- Two meetings with training director, training coordinator and 7 distance learning students.
- One meeting with plant manager, training supervisors and 5 distance learning students for award ceremony.

3M Healthcare CDI

- One session with cleanroom supervisor to discuss development of worksite module topics.
- One session with supervisors and cleanroom employees.
- One session with cleanroom supervisor on progress of employees.
- Supervisor, Instructor, Counselor meeting re progress of Conflict Resolution class.
- Three meetings with Human Resource Director and 5 distance learning students.
- Award ceremony for distance learning students and 3 supervisors.

Alcon

- Two meetings with training director and five supervisors to discuss training plan.
- Meeting with 5 supervisors to discuss program of training.
- Award ceremony for 15 employees, 5 supervisors, and plant manager.

C & C

- One session with Warehouse Supervisors to discuss student progress, attendance: 6.
- Meeting with HR Director and 6 line supervisors to discuss outcome of training.

Deft

- One session with all supervisors to discuss JobLink worksite modules, attendance: 14.
- One session with supervisor on distance learning possibilities and onsite learning lab.
- Two meetings with CAO and 3 supervisors to discuss future training.
- Three meetings with training supervisor and 5 distance learning students.
- Award ceremony for 5 supervisors, company president, vice president, and 5 distance learning students.

Fiberite

- One session with supervisors to discuss next steps, attendance: 5.

M.C. Gill

- One session with supervisors to discuss ROI, attendance: 7.
- Meeting with HR Director, training director, and supervisor team re: ROI.

Mallinckrodt

- One session with supervisors and support staff to discuss JobLink training opportunities, attendance: 55.
- One session with managers and supervisors to discuss worksite modules for Focus Factory II, attendance: 6.
- Two meetings with training director- to discuss future plans.
- Three meetings with training supervisor, training assistant and 5 distance learning students.
- Award ceremony for 5 supervisors, plant manager, training supervisor and 5 students.

McGaw

- Nine supervisor's training sessions, attendance: 40.
- One session with supervisors to discuss ROI, attendance: 4.
- Three meetings with training director, training coordinator, plant manager, HR specialist.
- Three meetings to discuss training classes and results.
- Meeting with Training Director, Training Coordinator and Supervisor to discuss Just-In-Time English.
- Meeting with training director, training coordinator and 10 prospective distance learning students.

Newport

- One session with supervisors on training advisory committee to discuss assessment and JobLink training, attendance: 12.
- One session with 1 supervisor to discuss feedback on worksite module.
- One session with 2 supervisors to show them the lab and how it operates.

Printronix

- Meeting with second-shift supervisor to discuss literacy problems among her employees.

Rosemount

- One session with supervisors re: worksite modules, attendance: 3.
- One session with supervisor to set up distance education for employee.

Steelcase

- One session with quality supervisors to discuss metrology module, attendance: 11.
- One session with HR Director, OD specialist, and 1 supervisor to discuss problems at JobLink Lab.
- One session with 2 supervisors about employees they wanted to send to the lab.
- Three groups of supervisors came to JobLink for Lab and Internet Orientation.
- Three meetings with training director, chair division director and supervisor to discuss distance learning training.

Unitek

- Three meetings with training supervisor and 5 distance learning students
- Award ceremony for 3 supervisors, training director and 7 distance learning students

When working with supervisors of distance students, E-mail proved to be the fastest and most effective way to communicate. E-mail allowed the supervisor a chance to get back to the instructor and answer very specific questions without wasting time. Instructors could keep supervisors apprised of training tapes and special events.

Task #3 Establish a two-way communication link between supervisors and instructors at the JobLink Lab.

Many of the JobLink companies are just now converting from Intranets or LANs that do not connect with the Internet to full Internet connections. In spite of the firewalls that can be constructed to protect proprietary information, many companies have been slow to develop true Internet compatible systems. Because of this, we were not able to make as many E-mail connections with supervisors that we had originally planned during the project. In the pilot tests for the Distance Learning program, we did use E-mail to establish some regular contact with supervisors, and it was quite successful.

As an alternate activity to the two-way communication system, a supervisor's newsletter was produced twice during the second year of the project. Entitled "UpLink," the newsletter featured information about JobLink training programs and statistics about JobLink students. It was designed for supervisors and upper management at the partner companies. Copies of UpLink are found in Appendix H.

Task #4 Develop award and recognition program for participants in the JobLink Lab.

In the fall of 1995, an extensive reward and recognition program was initiated at the JobLink Lab. Students were asked about the types of prizes and awards they wanted and tee shirts topped their list of requests. As a result, all JobLink students received tee shirts as part of the Grand Opening ceremony that November. Numerous other awards were also available and were given for attendance, for bringing a new student to the Lab, and for achievement. These included books and tablets and a number of items donated by the partner companies, including water bottles and mugs. After three months of this program, Lab instructors felt that it was not providing additional motivation to students so the program was modified.

The new rewards program involved ongoing celebrations in the Lab. Students were recognized for passing Citizenship tests, getting good performance reviews, receiving job promotions. Students, instructors, partner companies and staff provided cakes, cookies, ice cream sundaes, and a host of other treats to enhance the frequent recognition celebrations.

Lab students received awards and recognition at the First Anniversary Celebration in 1996 and the Lab Graduation in 1997. Certificates were always given, since students indicated that these were very important to them. The Anniversary and Closing ceremonies were joint efforts between JobLink and the partner companies. In addition to the certificates, JobLink provided key chains (the key to learning) small clocks, and books to students at various levels of attendance.

Three other formal celebrations revolved around the Salute to Pablo Gonzalez, (the Steelcase plant manager who was transferred back to Michigan), a learning card party with "Word Rummy" inventor Walter Wood, and a Holiday Potluck at year's end when Lab students were rewarded with books, dictionaries, and audio tapes.

JobLink Distance Learning students had more formal celebrations at the end of the pilot program. Nine companies had ceremonies where employees were awarded their Distance Learning Certificates. Supervisors, CEOs, and plant managers showed up to salute these employees. At the closing ceremonies students spoke about their experiences, supervisors shared the changes they observed, the instructor reviewed the successful statistics.

Graduation Celebration

Students helped plan and support a final celebration in Summer, 1997. Students brought their favorite dishes for a great potluck party with teachers and staff. One hundred thirty-seven JobLink students attended the closing day at the JobLink Lab along with 37 other guests. Supervisors, plant managers, instructors, volunteers and JobLink friends joined in the celebration, which some called a graduation. Among the mementos given to students that day was the final issue of the newsletter, which they had helped write. (See Appendix G for copies of the student newsletters.) Students received their final evaluations and recommendations for continuing their education.

Partner companies sent the message that education would continue to be a primary focus and would be supported by them. McGaw bought summer learning kits for their employees to use at home. Kits included books, math workbook, audio taped lessons, How to Read for Everyday Living, and some family literacy materials including colors, cards, and simple games.

The rewards and recognition provided by JobLink was supplemented by items from the partner companies. At the Opening Ceremony, a Deft employee was given a plaque in recognition of his many hours of work in the JobLink Lab (during the pilot project and first few months of the funded program). At the one-year anniversary, McGaw employees received baseball hats and company tee shirts in recognition of their participation in both Lab and worksite training.

Scholarships in the form of released time to attend the JobLink lab were provided by several of the partner companies. At Deft, the scholarship rotated from month to month from one employee to another. Since some of the JobLink Lab students were motivated by their desire to become citizens of the United States, three companies offered scholarships to pay fees for employees who successfully passed this milestone.

Challenges

We expected it to be difficult to engage supervisors in the project, and we were right. Their busy schedules were a definite obstacle that we tried to overcome by making our meetings and training programs as short as possible. Whenever we could, supervisor sessions were added onto other sessions that were already on the supervisors' schedules.

Throughout the project, we continued to hear reports from students of ways in which their supervisors interfered with their training or were not supportive of their efforts. On the other hand, we also began to hear more and more often about supervisors who were encouraging and supporting their employees' improvements. This was most evident to us when supervisors came to us to ask for assistance in designing programs for their employees or to schedule delivery of some of the JobLink programs for their employees. When it was less obvious, students would tell us of special recognition or encouragement they had received from their employers.

Supervisors at 3M Healthcare, CDI asked JobLink instructors to attend a meeting with a cross-functional team that was brainstorming ways to resolve conflict among the cleanroom employees. As a result of the discussion at this meeting (with supervisors and a group of employees) a decision was made to offer the JobLink Conflict Resolution worksite module. The module was very successful and one of the many results was the dissipation of a conflict that had kept two employees from speaking to each other for years.

One Fiberite employee participating in the distance learning program talked with the plant manager one evening to thank him for the Internet connection at his desktop, which allowed him to participate in the Just-In-Time English program. The plant manager said he was very impressed with Miguel's devotion and surprised that after nine years this was the first time they had actually spoken together. The plant manager gave Miguel tickets to an Angel baseball game just to let him know how pleased and proud he was of him.

In a slightly different way, supervisors who were interested in the project sometimes caused barriers for their students. At several companies, supervisors asked if they could attend classes. Though their interest in the classes was laudable, the instructors felt that their presence would affect the open nature of the classroom and would inhibit student participation in class. It was difficult to make supervisors understand that no matter how good their relationship with their workers, they could potentially cause a negative environment for learning in the classroom. This was one of the reasons that we developed the idea of companion training modules for supervisors, which provide the supervisors with a brief overview of the class topics without having them actually sit through all of the training.

Discoveries

Supervisors and leads in manufacturing businesses have enormous pressures to keep up and increase production. Anything that takes them away from that task is hard for them to justify. Meetings that did not relate to daily production were difficult to sell. The most effective means to communicate or involve the supervisors came from using quick E-mail communications, video conferencing meetings, simple and short questionnaires, and brief on-site ceremonies.

When it is impossible to get the supervisors involved, it is sometimes possible to garner their cooperation by working from the bottom up! Students were given assignments that forced them to interact with their supervisors…on a level that was comfortable for them. For example, they might be asked to "interview" their supervisor by asking a simple question and bringing the information back to class. If the instructor carefully crafted the question so that it reflected issues that were important to the supervisor, this could act as a way of engaging the supervisor's interest. Another method that worked, especially when a supervisor had more than one worker in a class, was to invite the supervisor to a class session or luncheon, and have the workers personally deliver the invitation.

Success Summary

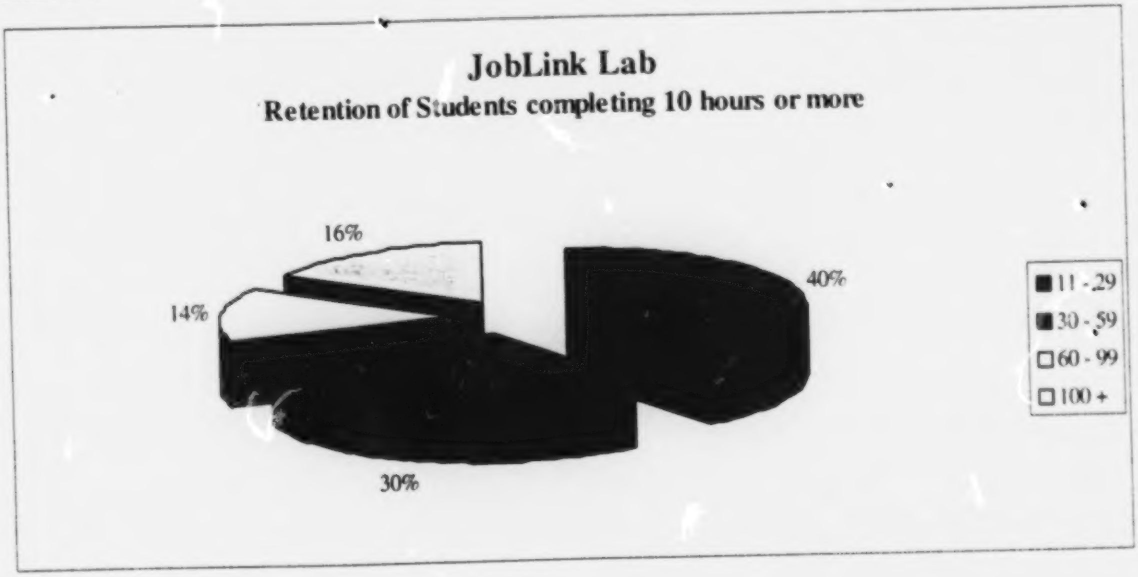
- Supervisor meetings and orientations involved supervisors from all partner companies and worksite module training sites.
- Supervisor modules have been developed to accompany each JobLink worksite module.
- Supervisors participated in five Brown Bag lunches designed for them.
- Many partner companies provided special rewards or recognition for employees who participated in voluntary JobLink programs
- Retention in voluntary programs was 60%, based on students participating in more than 10 hours of training.

- 72 Supervisors attended project meetings at the companies and brown bag lunch meetings during the second year of the project.

Results

The retention rate in the JobLink Lab was 60%, based on students who spent more than 10 hours in the Lab. The rate varied at different levels of participation. After removing those students who stayed less than 10 hours in the Lab, 40% of the students have reached the 30 hour mark, 30% have stayed between 30-60 hours, 14% have stayed between 61-99 hours, and 16% have excellent retention records of over 100 hours. (JobLink worksite modules were offered on company time so they are not included in the discussion of results for this objective)

Chart 3-1



A group of 36 students was selected for study of transfer of lab training to the workplace. They were selected based on their willingness to have their supervisor notified that they were attending the JobLink Lab and questioned about their work performance. It can be assumed that students that agreed to be part of this group were fairly self-confident (they did not mind if their supervisors knew that they were involved in literacy training) and felt good about their job performance. In fact, every one of the supervisors contacted had positive comments and praise for improved work performance of the student that worked for them.

The comparison of the group of 36 students who all received praise from their supervisor for improved job performance with the total population of lab students reveals many similarities and a few differences. The group of 36 ALL planned to take a computer course in the future, as compared to 76% of the lab students. On all plans for future education and training they were more interested than their counterparts and they were significantly more interested in college degree programs and home-study courses.

Not surprisingly, the 91% of the group of 36 students had had more responsibility added to their jobs as opposed to 63% of all lab students (remember, their supervisors praised them!) They also were more likely to have received a raise (45% versus 27% of the general population of lab students) or an award, bonus or special recognition (36% versus 19% of all lab students).

The following table shows the self-assessment responses of those students who were rated by their supervisors as showing improvement. The combined average hours of instruction for these students was 71.1 as compared to the average Lab student who spent 70.3 hours in the Lab.

Table 3-1

Question asked:	Responses	
In the future, do you plan to take any of the following courses?	***"Plan to take"***	
	Rated by supervisor	**Lab**
A basic skills course in reading, writing, or math:	83%	78%
A course in using English (such as ESL):	82%	77%
A computer course:	100%	76%
A GED course or the GED exam:	50%	49%
Courses to get an occupational certificate:	55%	43%
A job training course:	60%	51%
Courses leading to a 2-year or 4-year college degree:	64%	44%
A home-study course:	60%	34%
Since this course began, have you:	**Percent of students who answered *"Yes"***	
	Rated	**Lab**
Learned what you wanted to learn in this course?	86%	90%
Changed your educational or career goals?	82%	77%
Had more responsibility added to your job?	91%	63%
Moved to a shift you prefer?	40%	30%
Switched from part-time to full-time?	0%	15%
Received a pay raise?	45%	27%
Been promoted?	27%	23%
Received an award, bonus, or other special recognition on your job?	36%	19%
Received your GED?	9%	19%
Applied for a new job?	9%	17%
Started a new job at another company?	0%	15%
Been laid off?	0%	9%
Left your job for any other reason?	0%	3%

The comparison of the students who were rated as "Improved on the job" by their supervisors with the general population of Lab students indicates some predictable differences. In the group that had the approval (and perhaps the support) of their supervisors we see more interest in going on to take other classes, especially computer classes, job training courses, college classes and home study courses.

This group of students also was much more likely to have received a pay raise, promotion, and/or a reward, special recognition, or bonus. They were more likely to have changed their educational and/or career goals during the training and to have had more responsibility added to their jobs.

Whether their better than average improvements (as measured on their self assessments) resulted from or caused their supervisors' praise is impossible to say. The point that is relevant to this chapter of the JobLink story is that these employees had attended a voluntary, after-hours program and were not afraid to let their supervisors know that they were taking this step to improve themselves. They were interested enough in knowing how their supervisors felt about their job performance that they let their teachers contact their supervisors to discuss the transfer of training. Even though their overall hours of study were the same as the group of general lab students, they obviously had a more positive and successful experience as evidenced in their self-assessments.

CHAPTER 4

Measuring Return On Investment (ROI)

Problem

The idea of applying the business concept of Return-On-Investment (ROI) to training programs has become popular during the last five years. With mixed success, trainers have found some innovative ways of measuring the dollar value to the company of changes that occur following a training program.

Five of the JobLink partner companies invested a significant amount of company time in literacy training before the JobLink project began. When reflecting on these earlier programs, they felt they were unable to identify how that earlier training improved productivity. Though the problem of measuring value exists in companies of all sizes, smaller companies had even more difficulty dedicating resources to training unless there was a clear and immediate payback for them. Smaller companies reported that their people are their most important resource and the largest barrier to training is taking people off the line during work hours, unless a clear ROI can be demonstrated.

During the project planning process, partners indicated that they already track or would be able to trace the following factors as part of the ROI analysis: scrap rate, rework rate, absenteeism, employee turnover, individual incentives, customer satisfaction (internal and external), and on-time delivery (finished good and in process components).

OBJECTIVE 4.

Improve overall effectiveness of literacy training by tying programs to bottom line measures in companies, developing a system to measure Return on Investment (ROI) on basic skills and literacy training. Help students see and track their personal ROI for training.

Task #1 — Integrate ROI into every aspect of the JobLink project.

A Return-On-Investment (ROI) factor was layered into every major activity of this project. Learning objectives for training modules included improvements in job performance or work-related behavior. Special student evaluations focused on ROI and supervisors were also asked to validate this measurement.

A sequential approach was taken to this aspect of the project. With both individual students and the companies where they work, it was very important to begin at an appropriate level. With students, this was done by introducing the concept of individual ROI for the time spent in training. We developed this idea with our students and, in fact, they produced a student newsletter with personal ROI as the topic. See Appendix G for a copy of this Newsletter.

After students understood the concept of Return On Investment for their personal time and energy, they were given an opportunity to identify ROI factors related to their jobs. These were integrated into an ROI survey for Lab students that was administered regularly. Results of these surveys can be found at the end of this chapter.

Task #2: Calculate ROI for individual students who participate in the project.

In order to develop ROI surveys for worksite modules, supervisors and company representatives were interviewed about the job performance changes that they hoped to see as a result of the training. These changes were translated into measurable factors that were included on the ROI survey. Table 4-1 shows the ROI factors identified during the job analyses. Table 4-2 shows the survey topics developed for work site students at McGaw.

Table 4-1

JobLink

Return on Investment Factors Identified During Job Analyses

	Test Technician	Electronics Assembler	Mechanical Assembler	Warehouse Worker	Machinist	Machine Operator	Supervisor/Lead	
Quantifiable Production Standards								
Units per hour	✓	✓	✓	✓	✓	✓	✓	
Units per shift	✓	✓	✓	✓	✓	✓	✓	
Units per department	✓	✓	✓	✓	✓	✓	✓	
Product quality/quantity	✓					✓		
First pass yield						✓		
First article yield					✓			
Weekly production schedule						✓		
Defects %					✓	✓		
Hours spent on re-work						✓		
Rejects rate						✓		
Accuracy of paperwork (FDA Requirement)						✓		
Focused incentives							✓	
Productivity factors							✓	
Schedule attainment							✓	
Back order rate							✓	
Projects completed in timely manner					✓		✓	
Supervisory skills							✓	
Training							✓	
Job knowledge				✓				
Speed, Accuracy, Neatness				✓				
Meeting shipping dates			✓					
Meeting Company sales goals			✓					
Workmanship errors		✓	✓					
Safety/accident occurrences		✓	✓					
Efficiency Ratings								
Turnaround time	✓	✓	✓	✓	✓	✓	✓	
Work hours per operation	✓	✓	✓	✓	✓	✓	✓	
Cost per operation	✓	✓	✓	✓	✓	✓	✓	
Scrap rates	✓	✓	✓	✓	✓	✓	✓	
Quality rates of 95% to 100%	✓			✓	✓	✓	✓	
Machine repair, down-time							✓	
Accuracy of paperwork							✓	
Workmanship nonconforming materials							✓	
Set-up time						✓	✓	
Inventory accuracy							✓	
Maintaining equipment/workstation				✓				
Willingness to work overtime				✓				
Response time				✓				
Balanced work flow-assembly line attitude						✓		
Actual labor vs. standard labor		✓	✓		✓			
Maintaining production schedule			✓		✓			
Daily through-put					✓	✓		
Cost reduction			✓					
Engineering re-designs			✓					
Quantity of products			✓					
Returns due to Assembler error			✓					
Reliable product	✓							
Cycle time	✓							

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JobLink

Return on Investment Factors Identified During Job Analyses

	Test Technician	Electronics Assembler	Mechanical Assembler	Warehouse Worker	Machinist	Machine Operator	Supervisor/Lead	
Worker Attitudes								
Presenteeism	✓	✓	✓	✓	✓	✓	✓	
Participation in programs	✓	✓	✓	✓	✓	✓	✓	
Awards	✓		✓			✓	✓	
Process improvement suggestions, recommendations	✓	✓	✓	✓	✓	✓	✓	
Fully cross-trained workforce							✓	
Opinion surveys							✓	
Quick start meetings/crew meetings							✓	
OSHA recordable incidents/safety records						✓	✓	
Safety awareness			✓	✓				
Operator/Machine Certifications						✓		
Cash Bonus, profit sharing			✓					
Self motivated			✓	✓			✓	
Flexibility				✓				
Initiative				✓				
Positive attitude					✓	✓		
Reliability					✓	✓		
Attitude			✓					
Cooperation		✓	✓					
Able to follow instructions				✓				
Willingness to assist customers				✓				
Receptive to change				✓				
Promotions			✓					
Communication				✓	✓	✓	✓	
Teamwork	✓		✓	✓		✓	✓	

Table 4-2

ROI SURVEY TOPICS

Following Directions

1. Employee can understand directions the first time they are given.
2. Employee can ask questions for clarification when he/she does not understand the directions.
3. Employee can accurately explain directions to others.

Written Procedures

4. Employee can read and understand changes in procedures.
5. Employee can find station requirements in the procedures.
6. Employee can identify which part of the procedures he/she is working on.

Team Work

7. Employee volunteers to participate on team projects.
8. Employee communicates with coworkers.
9. Employee is comfortable working in other sections of the plant.

Employee Development

10. Employee adapts well to unexpected changes.
11. Employee understands set up codes for her/his job or department.
12. Employee knows about hazardous chemicals used in her/his area.

Language Development

13. Employee makes suggestions for improving her/his job or line.
14. Employee identifies problems to be solved.
15. Employee can describe job duties.
16. Employee needs things translated for her/him.

The ROI surveys were completed by employees at the beginning and end of training. When possible, supervisors also completed the surveys and a comparison for each employee of the self-assessment and the supervisor's assessment. Two case studies are included in this chapter to show how the process worked and how the results of students and supervisors compared.

Challenges

Even though JobLink partners indicated during the planning of the project that they already track scrap rate, rework, absenteeism, employee turnover, individual incentives, customer satisfaction and on-time delivery, NONE of the partners were willing (or able) to link these factors to literacy training programs. Two barriers interfered: The partners were unable to see how this data related to improvements targeted by the training programs OR partners felt there were other factors outside of the training that might also influence these factors. In the latter case, partners did not want the training to be unfairly seen as the cause for the improvement when other efforts, such as new production processes, might be responsible wholly or in part for the improvements.

During the planning phases of this project, it seemed that using factors that were already being tracked by companies would make it more convenient to calculate Return-On-Investment. After three years of trying to get companies to actually track such factors before and after literacy training, it is clear that this is a necessity, and may be the only way to incorporate ROI calculations into the evaluation of literacy training programs. We cannot expect companies to institute new measurements simply for the purpose of verifying ROI of their training efforts.

It should also be remembered that the traditional use of ROI is for cost-justification of projected programs. Once a program has been completed, it is difficult to get companies to focus on ROI. Although it may be useful in justifying the next training program or a roll-out of a pilot program on a plant wide basis, ROI is usually regarded by the corporate decision makers as a front end calculation used to justify the cost of a new program, product, or idea.

Results

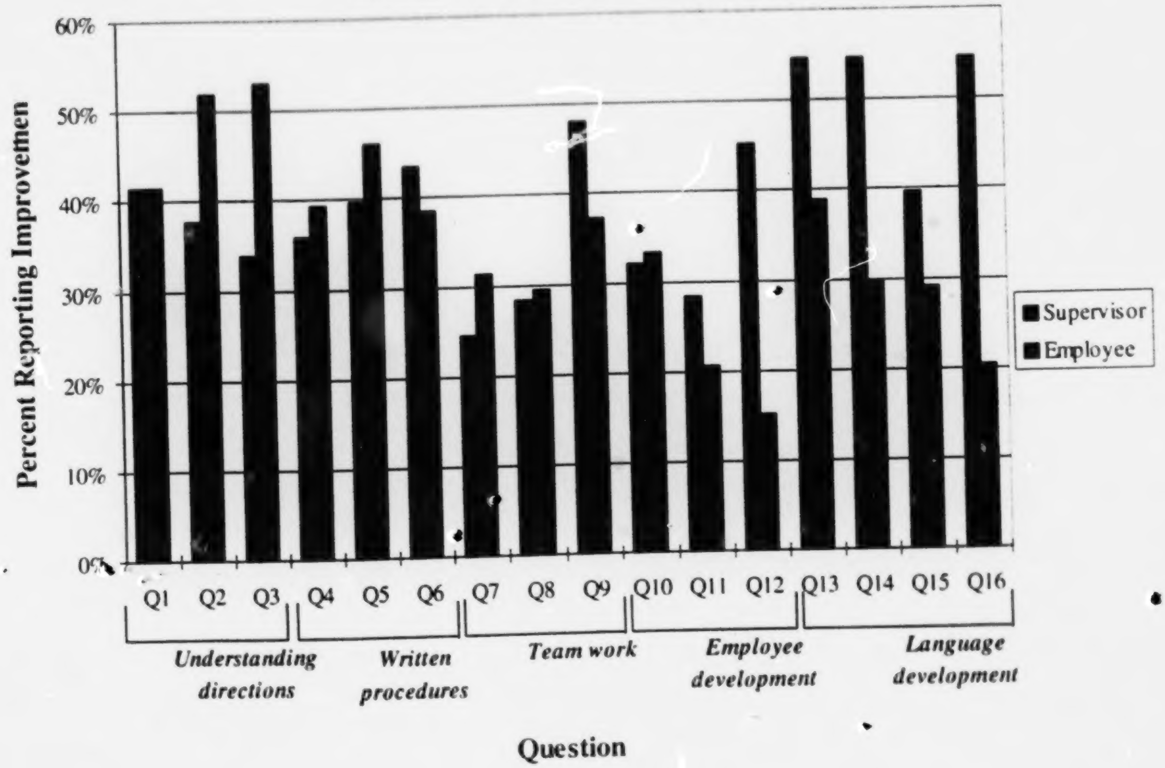
Case Study - McGaw

A five-month worksite training program at McGaw covered five of the JobLink worksite training modules, beginning with the VESL module and including Active Listening and Feedback, Making Suggestions, Problem Solving, and Working on a Team. ROI surveys were completed by students and their supervisors at the beginning and end of training.

The ROI survey used at McGaw contained the questions found in Table 4-2. The charts that follow provide a detailed look at the change in ranking on each question for students who ranked themselves and supervisors who ranked the same students. This data is presented for a group of 60 of the 200 McGaw students who participated in that round of training. Students were selected for this sample because we had complete data on them, including ROI pre- and post-surveys from BOTH student and supervisor.

Chart 4-1

Percentage of Students or Supervisors Reporting Improvement on Pre and Post ROI Surveys



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Notable Results

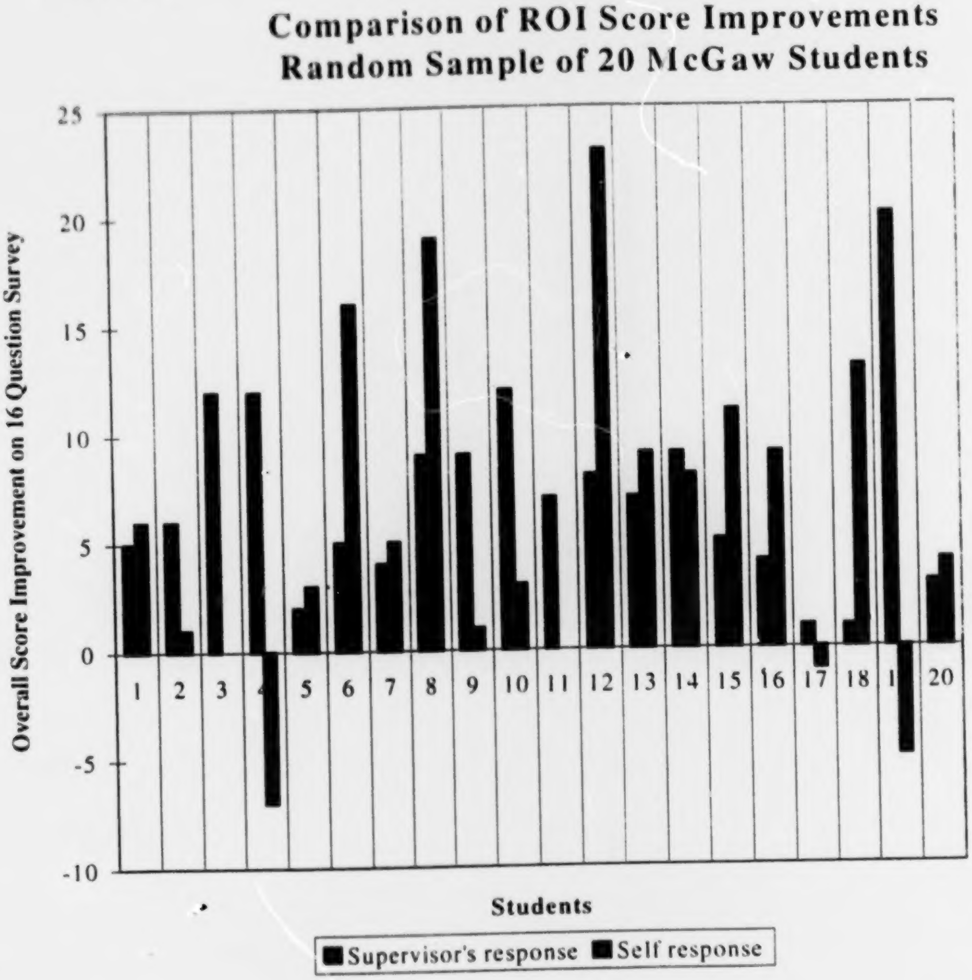
Surveys were administered five months apart, at the beginning and end of worksite training programs. Employees received no other training during this period.

- Supervisors tended to rank employees more improved than the employees ranked themselves.
- Students and supervisors ranked improvements within ten percentage points of each other on half of the questions.
- Questions where smaller improvements were noted corresponded with areas that were not covered extensively in the curriculum.
- The largest discrepancies of supervisor and student ratings are noted on the following table.

Questions on which student and supervisor rating varied by more than 10%

Supervisors rated students significantly more improved than students rated themselves	**Students rated themselves significantly more improved than their supervisors rated them**
Employee is comfortable working in other sections of the plant.	Employee can ask questions for clarification when he/she does not understand the directions
Employee knows about hazardous chemicals used in her/his area.	Employee can accurately explain directions to others.
Employee makes suggestions for improving her/his job or line.	
Employee identifies problems to be solved.	
Employee can describe job duties.	

Chart 4-2



Note: Each letter represents an individual student. The average score improvement reported by the 20 randomly selected students is 5.9 while their supervisors noted a 7.1 score improvement for the same students. The average hours of instruction attended by these twenty students is 43.6.

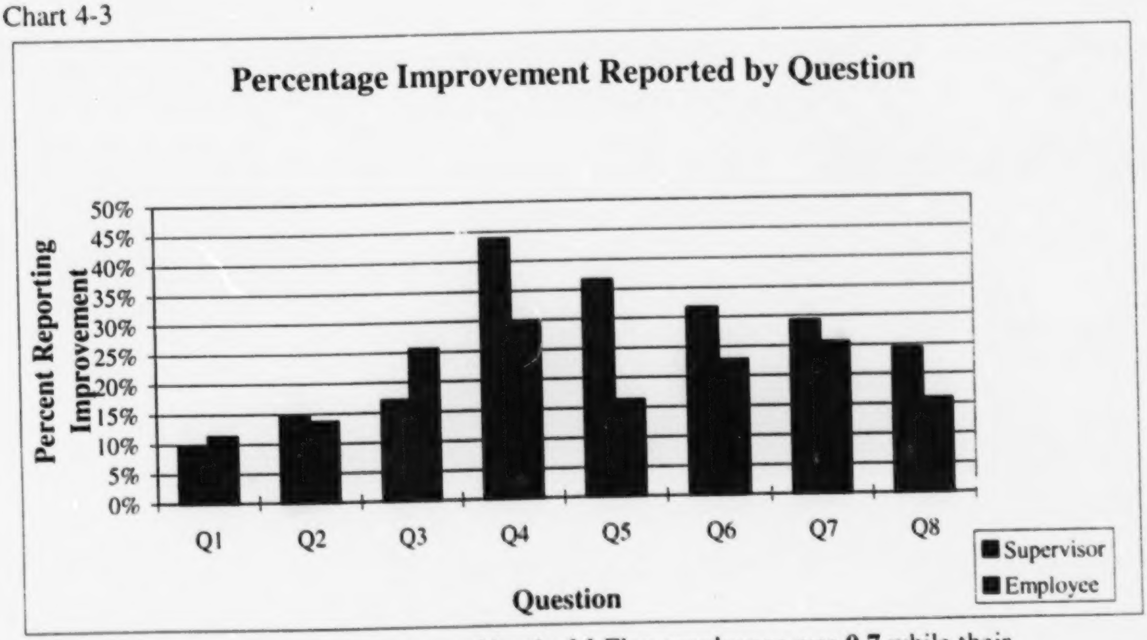
This comparison shows the amount of concurrence and difference between students and their supervisors. Only seven of the student-supervisor pairs showed significant agreement in their improvement ratings. Of the others, seven supervisors ranked their employees much more improved than the employees ranked themselves and six employees gave themselves higher rankings than their supervisors. Thus, there was an almost even split among the three groups and we would have to conclude that there was no prominent pattern in the relationship between student and supervisor ratings.

Case Study - M-Flex

Questions included on the M-Flex ROI survey were:

1. Employee uses the traveller to find out what to do on his/her job.
2. Employee understands the words used on the traveller.
3. Employee uses the sketches and figures to help himself/herself understand the traveller.
4. Employee understands directions the first time they are given.
5. Employee understands the things other workers say to him/her.
6. Employee speaks up at work.
7. Employee offers suggestions for improving M-Flex.
8. Employee needs to have someone translate for him/her.

Chart 4-3



The average score improvement reported by the M-Flex employees was **0.7** while their supervisors noted a **1.2** average improvement.

Table 4-3

Number of Students who showed Improvement

Question	Self	Supervisor
1	5	4
2	6	6
3	11	7
4	13	18
5	7	15
6	10	13
7	11	12
8	7	10

Two writing samples were collected from the M-Flex learners, one at the beginning of the JobLink worksite instruction and one at the end. In order to assure accuracy, objectivity, and consistency, all writing samples were scored by an instructor other than the one that taught the class. The scale was 5 points, 5 being the maximum. Of the 16 learners from whom we got both pre- and the post-writing samples, 44% (7 students) showed improvement on their writing skills during the 45-hour long program.

Case Study- ROI for JobLink Lab students

JobLink lab students participated in ROI assessment that focused on both their personal ROI and job-related ROI. Initially, the lab students identified the following ROI factors to be measured.

LAB ROI SURVEY TOPICS

Job-Related ROI

1. I want to learn to use the computer.
2. I want to increase the number of times I make suggestions during meetings.
3. I want to increase the number of times I explain problems/procedures to coworkers.
4. I want to decrease the time it takes to complete a work cycle.
5. I want to write notes to coworkers in clear, correct English.
6. I want to decrease the time it takes me to write notes/reports.
7. I want to reduce the time it takes me to learn new instructions/procedures.
8. I want to increase the number of times that I relate problems or concerns to my supervisor.
9. I want to get a better review next time I am evaluated at work.
10. I want to pass a test which I will be taking at work.

Personal ROI

1. I want to read the newspaper.
2. I want to leave written notes for my spouse/children.
3. I want to write notes to teachers concerning my children's education/absences.
4. I want to help my children with their homework.
5. I want to communicate my health concerns/symptoms to my doctor.
6. I want to write letters to my American friends.
7. I want to read books and magazines that interest me.
8. I want to understand American TV programs.
9. I want to participate in "small talk" and other conversations not related to work.
10. I want to play computer games.

Lab Students were surveyed by instructors and the counselor about their ROI. They were given the list of factors and asked to identify those where they had experienced an improvement since training began. Lab students reported improvement on 59% of the questions measuring their personal ROI and 58% of the questions measuring their job-related ROI. Here are the percentage of Lab students who identified each factor as a desired area of improvement.

Table 4-4

Job-Related ROI	
I want to learn to use the computer.	**94%**
I want to increase the number of times I make suggestions during meetings.	**27%**
I want to increase the number of times I explain problems/procedures to coworkers.	**38%**
I want to decrease the time it takes to complete a work cycle.	**23%**
I want to write notes to coworkers in clear, correct English.	**67%**
I want to decrease the time it takes me to write notes/reports.	**56%**
I want to reduce the time it takes me to learn new instructions/procedures.	**42%**
I want to increase the number of times that I relate problems or concerns to my supervisor.	**23%**
I want to get a better review next time I am evaluated at work.	**67%**
I want to pass a test which I will be taking at work.	**67%**
Personal ROI	
I want to read the newspaper.	**54%**
I want to leave written notes for my spouse/children.	**40%**
I want to write notes to teachers concerning my children's education/absences.	**46%**
I want to help my children with their homework.	**54%**
I want to communicate my health concerns/symptoms to my doctor.	**50%**
I want to write letters to my American friends.	**29%**
I want to read books and magazines that interest me.	**44%**
I want to understand American TV programs.	**48%**
I want to participate in "small talk" and other conversations not related to work.	**67%**
I want to play computer games.	**31%**

The following table shows the average number of points of improvement reported by the student on each factor. The point scale was 1 to 10 and the range of improvement went from 0 to 9 points.

Table 4-5

Job-Related ROI	
I want to learn to use the computer.	**4.0**
I want to increase the number of times I make suggestions during meetings.	**3.9**
I want to increase the number of times I explain problems/procedures to coworkers.	**2.7**
I want to decrease the time it takes to complete a work cycle.	**4.1**
I want to write notes to coworkers in clear, correct English.	**3.5**
I want to decrease the time it takes me to write notes/reports.	**3.8**
I want to reduce the time it takes me to learn new instructions/procedures.	**3.9**
I want to increase the number of times that I relate problems or concerns to my supervisor.	**4.0**
I want to get a better review next time I am evaluated at work.	**3.1**
I want to pass a test which I will be taking at work.	**3.1**
Personal ROI	
I want to read the newspaper.	**2.9**
I want to leave written notes for my spouse/children.	**2.8**
I want to write notes to teachers concerning my children's education/absences.	**2.8**
I want to help my children with their homework.	**3.3**
I want to communicate my health concerns/symptoms to my doctor.	**3.1**
I want to write letters to my American friends.	**3.3**
I want to read books and magazines that interest me.	**2.9**
I want to understand American TV programs.	**2.8**
I want to participate in "small talk" and other conversations not related to work.	**3.4**
I want to play computer games.	**2.9**

Lab Students ROI Self-Assessment Improvements Noted During ROI Interviews

Table 4-5

Student-Identified Personal ROI's	Student-Identified Job-Related ROI's
Increases: • knowledge • communication • comprehension • spelling accuracy • speaking skills • writing skills • punctuation • reading • word pronunciation • grammar • syntax • vocabulary • understanding • problem solving • opportunities for promotion • opportunities for growth • opportunities for better jobs • opportunities for a better life • self-satisfaction and pleasure • self-education	**I am able to:** • communicate with employers, supervisors, and co-workers. • express ideas and opinions with confidence • follow and give instructions • participate at meetings • help to solve problems • read and understand notes, letters, and instructions • give better attention to customers • reduce discrimination because of language • improve discussions • have more opportunities • have more chances to be promoted • improve communication with co-workers that do not speak the same language • understand instructions • propose ideas and implement them • communicate with customers • speak up • improve my quality of work • get a better education • improve my self confidence • read signs

Success Summary

- Students in all JobLink training programs learned the concept of Return On Investment (ROI) as it applied to their personal payback for time and energy spent in training activities.
- A system of measuring ROI and/or potential transfer of training to the job was developed and tested at companies where worksite modules were field-tested.
- Lab students developed and used a system that measured both personal and job-related ROI.
- Students' assessment of ROI was generally lower than their supervisors' assessments. Thus the transfer of training identified by the students was confirmed by their supervisors.

CHAPTER 5

Disseminating Project Results

Problem

The skill set of Orange County's workforce is typical of entry-level workers throughout California. According to the Council on California's Competitiveness 1992 report, "77 percent of California business leaders stated that the educational level of job applicants is a major problem and only 46 percent of new job applicants demonstrate adequate basic math and verbal skills on written examinations."

The three JobLink partner community college districts are part of a greater movement started by the California Community College's Economic Development Program, ED>Net, to coordinate economic development services for businesses and the workforce throughout the state. The community colleges recognize the value of disseminating results of this program's outcomes statewide and nationally.

Solution

OBJECTIVE 5.

Improve literacy training available to workers across the country by making the products and processes that are developed in this grant project available to companies and colleges throughout the country.

Task #1 Replicate the JobLink Lab to Test the Applicability of its Materials and Training Products at Other Sites.

A satellite lab site was operated during two years of the project to test the applicability of the JobLink lab in other settings. Attendance statistics for these sites were noted in Table 1-1 of this report. This satellite was housed at a comprehensive Business and Industry Service Center (BISC), adjacent to a one-stop center, in an state enterprise zone that is the focus of the economic development efforts of the city of Santa Ana.

Initial enrollments at the BISC site were good, due to a partnership with a company that had just completed the Work Keys testing program with its employees and was encouraging them to improve their literacy skills. The original plan was to serve employees of small businesses (which surround the BISC site) at this site. However, despite efforts that included door-to-door publicity, we were never able to find an effective marketing strategy to reach these businesses. In fact, the activity of going from company to company with informational brochures that invited participation in the project failed at both the original Tustin lab site and at the BISC location.

Although attendance at the BISC satellite lab did build during the two years it was open, it never reached the level of attendance at the original JobLink Lab. The instructors felt that this was because we never developed the partnership with the local companies near BISC that we had with the original project partners. This partnership was key to getting the support and the recognition and rewards for employees who were voluntarily in training.

An attempt to open a second satellite at an adult education center was abandoned after one year because neither the business partnership nor the attendance could be built.

Challenges

Dissemination of the JobLink products that were produced in print or CD ROM format can be done through traditional channels. These products include full instructions so that they can easily be used by students and trainers in other locations. The same is not true of the distance learning system. It presents special challenges in both marketing and use at other sites.

Although the Just-In-Time English and Just-In-Time Communication distance learning programs can be marketed in traditional ways, the most successful marketing of these Internet-based programs will probably be over the Internet itself. Although we made several attempts last year of putting together an Internet ListServ as a marketing tool, we had software problems and this phase of the marketing program was never fully implemented.

We worked with a neighboring community college to see if the distance learning program could be used successfully by other education-industry partnerships. This experience, which was not totally successful, pointed out to us the difficulties of training teachers in the skills and roles of the distance education instructor. There is a significant paradigm shift that must take place when teachers begin to teach on the Internet. This Fall we will be working with other community colleges that are interested in our products and we plan to develop an in-service program that will ensure better preparation of instructors for this important role shift.

Several factors play into a successful after-hours learning lab. Convenience is certainly one of these factors, and our ability to help students with child care was also important. Although we felt our materials are very engaging and promoted significant student success, it seems that the conditions at the worker's company may be a critical factor in determining whether an employee will come to training and whether he/she will stay in training. Companies that are facing significant job changes and that have made it clear to employees that the future of their job may depend upon their literacy skills, see more employees coming on their own time to study at the labs and staying with their studies for longer periods of time. Other companies that offered positive motivation, like student scholarships, also saw improved attendance and retention. In either case, the active involvement of the worker's company seems to be a key factor. Where companies were not in partnership with the project, it was difficult and/or impossible to generate the student involvement we expected.

Table 5-1 *Denotes a JobLink Partner Company

Lab Student Participation by Company			
Company Name	**Number of Students**	**Lab Hours**	**Average Lab Hours**
McGaw*	136	7785	57.2
Steelcase*	101	3873	38.3
Mallinckrodt Medical*	51	2068	40.5
Printronix*	25	1424	57.0
Rosemount*	13	1278	98.3
Newport Corp.*	11	1122	102.0
Alcon	23	982	42.7
RICOH	38	608	16.0
Deft*	11	567	51.5
3M Dental*	10	540	54.0
3M CDI	5	407	81.4
Western Medical Ctr. Bartlett	6	285	47.5
Sunset Recycling*	13	255	19.6
Iss	2	241	120.5
Disneyland Hotel	2	233	116.5
Tycom	1	180	180.0
Centennial Plastic Container	1	131	131.0
Pairgain Tech.	2	127	63.5
Holly Mistletoe Co.	1	118	118.0
Melmarc Products, Inc.	4	111	27.8
Jeferson	1	108	108.0
Big Canyon Country Club	8	101	12.6
Servicon	1	97	97.0
Rogerson Aircraft System	1	94	94.0
Cannon	1	91	91.0
E. S. Ring Management	1	86	86.0
Vons	1	86	86.0
G.T. Bicycles	3	82	27.3
Target Store	2	80	40.0
BiB Crayon	1	75	75.0
Talent Tree (Temporary Agency)	1	74	74.0
Sabritec	1	65	65.0
County Of Orange	2	65	32.5
Scantron Corp.	3	47	15.7
Santa Ana Unified School District	1	44	44.0
Smartflex Systems	4	44	11.0
Sunshine Mobil	1	43	43.0
B.E. Aerospace	2	43	21.5
Dioceses of Orange	1	41	41.0
Jammin	1	41	41.0
American Drug Stores	1	38	38.0
Los Ponchos	1	37	37.0

Table 5-1 Contd.

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Company Name	Number of Students	Lab Hours	Average Lab Hours
Tran Lam	1	36	36.0
Tustin Rehab Hosptal	1	35	35.0
Environmental Imaging	1	33	33.0
Cambro	1	32	32.0
Oshman's Sporting Goods	1	31	31.0
Itt Cannon	2	28	14.0
American Omni	1	27	27.0
Helionetic	1	25	25.0
McDonnell Douglas.	1	25	25.0
Excelsior Apt.	1	24	24.0
Rust Scaffold Inc.	1	23	23.0
Bradford Building Service	1	17	17.0
The OCR	1	17	17.0
Mitsubishi	1	16	16.0
Country Club Convalescence	1	14	14.0
EMI	1	14	14.0
Anderco	1	13	13.0
Gemini, Industries	1	13	13.0
Novak Electronics	1	13	13.0
Poly Optical Prod. Inc.	1	13	13.0
St. John Knit	1	13	13.0
Disc. Manufacturing	1	12	12.0
Seagate Technology Inc	1	12	12.0
Disney Cast Member	1	11	11.0
Electrical Products Corporation	1	11	11.0
Q.C.M. Research	1	11	11.0
Business Industry Services	1	10	10.0
John L-Norman, Atly	1	10	10.0
Ralphs Grocery Store	1	10	10.0

Note: no one under 10 hours of attendance was counted.

Discoveries

The lack of success in attracting students to the satellite labs led us to seek new approaches. One of these new approaches was to take the training directly to the student's home or work site via the Internet as opposed to trying to attract the student to come in to a learning lab. As noted in other chapters of this report, this approach has proven to be very successful.

Instruction via the Internet also offers a cost and infrastructure savings. Instead of having to equip, staff, and dedicate space to a lab, the school or company can set up one or two computers with Internet access for students to use. Students can work whenever it is convenient and several students can share the same computer. In our pilot projects, we found that 5-8 students who were working after hours could successfully share the same computer station if they were willing to build and keep a schedule for their on-line time.

Task #2 Disseminate Project Model At State And National Conferences.

The conference dissemination activities for the project are summarized in Table 5-2.

DISSEMINATION OF PROJECT MODEL AT STATE AND NATIONAL CONFERENCES

Table 5-2

Conferences	Title of Presentation	Presenter/s	Date	Location
Irvine Valley College	The Who, What, Where and Why of On-line Delivery	Tony Salas	6/2/98	Monterey, CA
Coastline College	Designing for On-line	Tony Salas	5/14/98	Garden Grove, CA
Creative Technology Institute Workshop	Five Minutes of Fame Showcase	Tony Salas	5/7-5/9/98	Los Angeles, CA
WBT Systems Tech Ed 98	TopClass/Digital Link Demonstration	Tony Salas	5/3-5/7/98	Santa Clara, CA
Community College Foundation TechEd 98	Distance Learning Demonstration	Tony Salas	5/3-5/6/98	Santa Clara, CA
California Community Colleges' Mega Tech Expo	On-Line Courseware Demonstration	Tony Salas	3/31-4/1/98	Palm Springs, CA
JobLink	Statewide Distance Learning Consortium	Chris Pitchess	3/28/98	Joblink
JobLink	Content Development Workshop	Chris Pitchess	3/25/98	Joblink
Coastline College	Multisensory Lab Workshop	Tony Salas	11/21/98	Costa Mesa, CA
JobLink	Disneyland Distance Learning Demonstration	Tony Salas	11/13/97	Tustin, CA
Community College Foundation	Multisensory Lab Demonstration	Chris Pitchess	11/5/97	Los Angeles, CA
California Community Colleges Foundation & L.A. City College	"WEB Production Tools"	Tony Salas	October, 1997	Los Angeles, CA
CCC Family & Consumer Sciences Alternate Instructional Delivery Systems Task Force Mtg.	"Exploring Alternate Instructional Delivery Systems"	Tony Salas	June, 1997	Newport Bch., CA
California Community Colleges Foundation Workshop	"Designing, Developing and Implementing an On-line Class"	Chris Pitchess Tony Salas	October, 1997	Los Angeles, CA

Conferences	Title of Presentation	Presenter/s	Date	Location
1997 Workplace Learning Conference, Shaping the Future	• "Can Distance Learning Really Work for Literacy Students in the Workplace?" • "Organizational Development & Training: Partners for Change"	Karen Klammer Chris Pitchess Heidi Wrigley Nasser Issazadeh Karen Klammer John Nesheim Chris Pitchess	April, 1997	Milwaukee, WI
1997 Technology in Education Conference	"WE@B - Workplace Education at its best"	Dennis Keagy Tony Salas	April, 1997	San Jose, CA
Chancellor's Office Sixth Annual Conference	"Preparing the Workforce for the 21st Century"	Karen Klammer Chris Pitchess Venetia Young	April, 1997	Los Angeles, CA
League for Innovation in the Community College "Workforce 2000"	• "Just-in-Time Training: Using Distance Delivery Systems for Contract Education" • "Partnership Growing Pains: How Collaboratives Change as They Grow" • "Distance Learning & Workforce Development in Adult Education Programs" • "Move Over CD-ROM, Here Comes WWW"	Karen Klammer Chris Pitchess Tony Salas Paul Amorino Mary Ann Desmond Karen Klammer Gloria Urone Karen Klammer Carroll F. Towey Karen Klammer Nick Kremer Tony Salas	February, 1997	Anaheim, CA

Conferences	Title of Presentation	Presenter/s	Date	Location
Invest Learning Seminar	"Just in Time Training: Using Distance Delivery Systems for Education"	Dennis Keagy Karen Klammer Chris Pitchess Tony Salas	February, 1997	Hayward, CA
Invest Learning Corp: a symposium for Adult Education Providers & Community Colleges	"Just in Time Training: Using Distance Delivery Systems for Education"	Karen Klammer Chris Pitchess Tony Salas	January, 1997	Irvine, CA
National Workplace Literacy Program Project Directors Conference	"The Search for Return on Investment"	Karen Klammer Gloria Urone	May, 1996	Milwaukee, WI
New Media Centers 1996 Summer Conference	Demonstration of The Literate Worker CD-ROM	Tony Salas	May, 1996	Ann Arbor, MI
Ed>Net Executive Committee	"Employment in Multimedia"	Tony Salas	May, 1996	Irvine, CA
International Reading Association Conference	Effective Workplace Literacy Models Presentation	LaVergne Rosow	May, 1996	New Orleans, LA
Presentation at Steelcase Headquarters	"Multimedia Training Systems for the Literacy Student Worker"	Karen Klammer Gloria Urone	May, 1996	Grand Rapids, MI
1996 National Workplace Learning Conference, *The Strategic Advantage*	Roundtable: "Taking the "Buzz" Out of Buzz Words: Demystifying Corporate Systems & Lingo"	Karen Klammer Gloria Urone	April, 1996	Milwaukee, WI
California Community College Association for Occupational Education	• "From Multimedia to Multi-Access Learning: The Evolution of a Distance Learning Contract Education Training System" • "Faculty-Team Design of Multimedia Training Materials for Team-Based Workplaces"	Karen Klammer Christine Pitchess Sandy Savage	April, 1996	San Francisco, CA

Conferences	Title of Presentation	Presenter/s	Date	Location
Orange County Business Education Partnership Conference	"Workplace Literacy for Local Manufacturers"	Karen Klammer Mary Ann Desmond Gloria Urone	April, 1996	Anaheim, CA
Ed>Net Entertainment & Multimedia Committee Meeting	Employment in Multimedia	Tony Salas	April, 1996	San Francisco, CA
League of California Cities Annual Conference	Presentation on Workplace Education	LaVergne Rosow	March, 1996	Newport Beach, CA
Conference on Adolescent/Adult Literacy	"Empowering Elementary Level Adult Learners w/Theory"	LaVergne Rosow	February, 1996	Washington, D.C.
League for Innovation Workforce 2000 Conference	"Team Approach to Developing Multimedia Literacy Training Materials"	Karen Klammer Sandy Savage	January, 1996	Orlando, FL
1995 Annual Adult Education Conference: Fast Forward to the Future - Technology, Assessment and Professionalism	Panelist for the National Workplace Literacy Program	Karen Klammer	November, 1995	Kansas City, MO
League for Innovation Annual Conference on Information Technology	"Team Approach to Developing Multimedia Literacy Training Materials"	Karen Klammer Sandy Savage	November, 1995	Kansas City, MO
Tustin Rotary Club	Literacy Program Presentation	LaVergne Rosow	November, 1995	Tustin, CA
Azusa Pacific University Literacy Forum	Panelist for Literacy Forum	LaVergne Rosow	November, 1995	Azusa, CA
Golden West College Flex Day	"JobLink Multimedia Courseware Development for the Adult Literacy Population"	Tony Salas	August, 1995	Huntington Beach, CA
ED>Net 7th Annual Conf.	"JobLink: Another Step in Workplace Literacy Training"	Karen Klammer	May, 1995	Irvine, CA

As a result of the numerous presentations made by JobLink staff, we developed an extensive network of colleges and companies who were interested in our work. Project results and products available for dissemination will be marketed to all of these organizations as well as all 109 California Community Colleges.

The JobLink program and its partner, Rancho Santiago College's Business and Industry Service Center (BISC) were featured in the National Alliance of Business publication: "*Delivering Cost Effective Services To Small and Mid-Sized Companies.*"

Marketing

Two major marketing efforts were mounted to support the dissemination of JobLink project products and results. The first of these was via the Internet on two web sites that were designed to provide education, information, and demonstrations of JobLink products. The second web site can still be viewed at http://www.joblinkoc.org. Copies of both web sites will be provided on CD-ROM as part of the product section of this report.

The second marketing effort was the development of brochures for the JobLink products: the worksite modules (including the Metrology CD-ROM) and the distance learning system. The worksite modules were renamed "Winning at Work" and separate brochures were developed for each module along with one overview brochure for the entire set of ten modules. **All of the brochures are included in Appendix I of this report. The worksite modules themselves are being shipped under separate cover from this report as part of the project products.**

Discoveries

In addition to dissemination to other educational institutions and practitioners, an important dissemination network was discovered through the JobLink partner companies. Many of the partner companies have locations in other parts of the United States and all over the world. As the partners asked us to find ways to serve their workers in other locations, JobLink found yet another justification for planning a distance learning system.

Success Summary

- JobLink staff and partners made numerous dissemination presentations.
- 126 people attended the JobLink Grand Opening.
- 86 people attended the JobLink First Anniversary Celebration in August, 1996.
- 175 people attended the JobLink graduation in 1997.
- 53 people attended the JobLink product showcase, June 25, 1998.
- Two JobLink web sites were built to field test products, offer demonstrations, and provide an easy way to obtain JobLink products and services. The second web site will continue to be active through June, 1999.
- A series of brochures outline the JobLink worksite modules and provide information on how to order.

Results

Approximately 40 people requested access to JobLink's demonstrations of Just-In-Time English on-line courses. People were requesting access to this demo from various states and institutions as well as from outside the United States. Included states were Missouri, Pennsylvania, Texas and Wisconsin.

The effectiveness of the JobLink web site as a tool for dissemination is evident when we contrast the access statistics for June 1996 and June 1998. June 1996 was the first full operational month for the JobLink web site. During June the site had 3,471 hits, the most accessed section of the site was the Glossary Lesson. This lesson was converted from the Literate Worker CD-ROM using Shockwave technology for the web. Most of the access points came from students participating in the JobLink learning lab. Of the 3,47 hits, 40 were from unique sites or computers connected to the Internet. In contrast after 2 years, the web site received 62,347 hits from 766 unique sites in June 1998. The maximum hits per day were 5,597 and an average of 2,078 per day. Of the most accessed URLs were our on-line classes with 13,110 hits and 987 to the JobLink home page. Of general interest we were able to track access by country's. See Table 5-3 for more details.

JobLink Web Site Activity--June, 1998

Table 5-3

Total Transfers by Country

No.			
1	21828	61.0%	Network
2	9111	25.5%	US Educational
3	2860	8.0%	US Commercial
4	1293	3.6%	Unresolved
5	125	0.3%	United States
6	72	0.2%	United Kingdom
7	62	0.2%	US Government
8	61	0.2%	Canada
9	55	0.2%	Norway
10	39	0.1%	Non-Profit Organization
11	39	0.1%	Sweden
12	30	0.1%	Spain
13	30	0.1%	Malaysia
14	25	0.1%	Australia
15	25	0.1%	Poland
16	16	0.0%	Philippines
17	12	0.0%	Singapore
18	11	0.0%	Russian Federation
19	10	0.0%	Italy
20	8	0.0%	Japan
21	6	0.0%	New Zealand (Aotearoa)
22	6	0.0%	Mexico
23	6	0.0%	Switzerland
24	6	0.0%	Bolivia
25	5	0.0%	Portugal
26	5	0.0%	Slovak Republic
27	5	0.0%	Belgium
28	5	0.0%	Netherlands
29	3	0.0%	Finland

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CHAPTER 6

Continuing Training after the Project Ends

Problem

During training programs that preceded this project, five of the partner companies found:

- Limited-English proficient workers require far more than the average 30 hours of instruction to increase their language proficiency.
- ISO 9000 certification requires that all workers can read and use the documentation for their jobs.
- Basic skills improvement sometimes disappeared after training ended.
- Continual reinforcement of learning was needed for the transfer of new knowledge to skill proficiency.
- Significant learning loss occurred during the gap between training and on the job.

Companies that sponsored intensive basic skills training programs also realized that their "corporate culture" sometimes ran counter to the goals of the training programs. Although workers could read better, no one on the line asked them to read!

Employees were asked how their companies could support continual learning at the work sites. The employees suggested having company libraries with resources accessible for reinforcing job skills and that their company's literature be available for them to read and learn about company goals and expectations of employees. They said that a comfortable work environment made it easier to ask questions about work-related problems with supervisors and talk with fellow employees.

Solution

OBJECTIVE 6.

Improve retention of worker learning and assure continued employee literacy learning by introducing programs and activities into companies that will create a literate environment where continuous learning becomes a way of life for everyone.

Task #1 Establish JobLink Libraries.

Each partner established a worksite library during Year 1 of the project as planned. These libraries were located at various sites in the companies, some in lunchrooms, others in specially designated offices or areas. The libraries contain reading materials selected by the company for the literacy student/workers and were purchased with a combination of grant and partner funds. The libraries were expanded in Year 2 with a combination of resources from partners and the grant project. Six additional sites that were active in the program also established libraries for their employees. These sites included: Fiberite, M.C. Gill, M. D. Pharmaceutical, McGaw, Polyclad, and Waste Management. All company libraries remained active at project's end and were supplemented with materials from the Joblink lab, which were distributed to the partners when the lab closed.

As the project progressed and the distance learning component emerged, the idea of adding computer equipment to the libraries evolved. By the end of the project, all partners except one had learning centers opened or planned that included computers connected to the Internet and available for employee/student use in accessing distance learning classes. In some of the companies, these learning centers also included more traditional training classrooms or spaces. A number of sites where worksite modules were offered also added computers to their libraries and/or learning centers, including Fiberite, McGaw, Polyclad, and M-Flex.

Partners and Sites with Computerized Learning Centers

• 3M CDI	5 station lab
• Steelcase	10 station lab adjacent to teleconferencing center
• 3M Dental	10 station lab

Printronix	10 station lab in their new facility completion date in '99
Deft	1 station with plans to expand to 2 or 3
3M Surgical	1 station lab
Mallinckrodt	1 station lab/desktop delivery for large number of employees
McGaw	1 station lab with plans to expand
Unitek	1 station lab with individual desktop delivery to many employees

Challenges

Even in high tech companies that produce computer equipment, buying and installing new hardware is one of the most time-consuming of all projects. In all of the companies in the project, months went by while purchase orders were approved, equipment was chosen, and finally installations were complete. This did not even account for the time necessary to train people on the use of the new equipment.

In field-testing the distance learning program, a decision was made to include only a small number of employees from each company but involve a larger number of companies. We felt that once a company had the equipment infrastructure in place, one of the biggest barriers to a distance learning program has been overcome; namely, the installation of the workstation or stations for student access to the Internet.

One of the most telling signs of the rapidity with which the world of high technology changes is the shift in attitude about the Internet in the last two years. Less than two years ago many of the partner companies refused to provide Internet access to their employees for fear that they would waste time on the Internet or access inappropriate sites. Now, in the summer of 1998, all but the smallest of the JobLink partners have Internet access in their plants. Most have desktop access for employees. Some have access only in their learning centers.

Results

Case study of CDI library use falls off if programs are not actively supported and offered.

- All original partners have set up computerized learning stations either in their libraries or on the floor.

- Partner companies all have employees who have gone through JIT English or JIT Communication and can assist other employees who want to become on-line students.
- New media and advanced technologies are being used by partner companies and their direct labor population to access education and training opportunities.

Task #2 Establish Hotline Network, linking employees to instructors and/or coaches who can assist them with literacy-related problems and needs.

We learned from our students that the direct connection we had planned to make between the manufacturing floor and the learning lab was not practical and would not be used for a number of reasons. Instead, the students indicated an interest in using a computer-based connection from a more private place, such as the JobLink library at each site. As discussed above, this led to the expansion of the JobLink libraries to computerized learning centers. Some of those learning centers have a modem connection that allows E-mail between workers and JobLink instructors. Others have installed T-1 or ISDN lines which support faster connections to the Internet for the JobLink distance learning students.

An E-mail connection between instructors and students is a central part of *Just-In-Time English* and *Just-In-Time Communication*, the JobLink distance learning programs. Surprisingly, many of the students who have participated in the JobLink pilot projects have maintained E-mail contact with their instructor long after the completion of their Internet-based class.

> I know I haven't been in the class for a while, but can I still write E-mail. I need to write more and I miss the class. What do you think? Duyen

> Please send me an E-mail pen pal. I want to write to someone to improve my English. I don't care if it is a man or a woman. Patrick

> My sister is visiting from China. She needs more practice on her English. Can she join the class? I will help her. Thank you. Ella

Task #3 Establish a computer network loop for everyone involved in this project.

Due to some technological problems, the electronic bulletin board we envisioned for project staff and students was never implemented. Students in the distance learning programs, however, have access to bulletin board (or announcement) sections, on-line (asynchronous) discussion areas, and have also experimented with on-line (synchronous) chat sessions. Communication in these various formats has been essential to the success of the distance learning classes.

Task #4 Partner Companies will establish a series of clubs and activities that will encourage continued literacy learning.

The JobLink partners are continuing literacy and basic skills training in formal ways at their companies. Many plan to continue to encourage and support employees who want to participate in on-line learning through the JIT English and JIT Communication programs. Just as they did before the NWLP grant, they will sponsor and pay for a variety of training programs that are held at the individual companies.

Steelcase has probably taken the largest step in helping employees meet the company's minimum basic skill requirements. Steelcase allows employees time off from their work to attend classes at an on-site learning center which is housed where the JobLink lab was located during the grant project. Each employee is allowed to continue to have up to four hours a week off the floor to improve his or her skills until they meet the minimum skill requirements. Steelcase pays for this time. In addition, Steelcase has upgraded the learning center with ten Pentium computers with a T1 Internet connection for very fast access. They are also building a video conferencing center for distance learning and video conferencing counseling. In this center they also use JobLink materials like the Measuring At Work CD-ROM (which they helped fund the completion of) to prepare employees for more advanced training and certification.

Four partners companies asked for help in establishing special activities during the first year of the project. One site, Fiberite, introduced a "buddy" mentoring program to encourage and support workers who attend the JobLink Lab.

The idea of clubs and activities was originally added to the proposal for this project because these were seen as easy, inexpensive ways for the companies to continue support of their employees' literacy learning after the project ended. In fact, the JobLink partners have gone beyond this level of commitment and demonstrated their intention to continue formal literacy training after the federal funding for this project ends. For example:

- Steelcase has continued JobLink Lab and distance learning classes for 32 employees this spring. These classes were funded with a combination of California State Employment Training Panel funds and Steelcase funding.
- 3M Dental has continued to offer worksite modules for their employees and is paying for these modules with company funds. At their new computerized learning center, employees will be encouraged to continue in JIT English.

Task #5 Provide a smooth transition to college classes for those students who are interested and ready.

During the first year of the project, 47 students inquired about the transition to college-level classes. Most of the Lab students (average reading level 3-4 grade level) had a lot of basic skills work to do before they were ready to think about college-level classes. We did, however, assist eight students in entering the GED program, which is a step in the college direction. In addition, since employees became proficient in Internet skills about 15 have enrolled in community college classes on-line as a convenient way of continuing their education.

Success Summary

- Libraries were established at 14 companies.

- All original partners have set up computerized learning stations either in their libraries or on the floor.

- Partner companies all have employees who have gone through JIT English or JIT Communication and can assist other employees who want to become on-line students.

- New media and advanced technologies are being used by partner companies and their direct labor population to access education and training opportunities

- E-mail and Internet connections between partner learning centers and JobLink have been established and will be maintained after project funding ends.

- A collaborative arrangement with Tustin Unified School District kept the JobLink Lab open two days per week during the 1997-98 school year.

- A grant from the Steelcase Foundation made JobLink lab time available to workers AND their families during the 1998-99 year. A special section of the JobLink web site was also established for families.

- Two partner companies are already paying a fee for service to continue JobLink programs and activities.

- Partners all own the JobLink worksite modules and will continue to use them in their training programs.

CHAPTER 7
Comparisons and Conclusions

The National Workplace Literacy Partners Program was created for the purpose of demonstrating the effectiveness of workplace literacy training. JobLink's contribution to that goal came in the form of developing and testing a series of training systems, some of which used new media and technologies as their delivery mode.

In evaluating JobLink as a demonstration project, we have asked the following questions:

- What have students gained?
- What have employers gained?
- Have the systems developed and tested by JobLink provided effective training?
- What are the lessons learned for future use of computers, new media, and the Internet for training the literacy student?

This report has dealt with these questions from a variety of perspectives. In this final chapter we will compare the systems and materials developed during the JobLink project and draw our final conclusions.

Benefit to Employers

The active participation of our original nine partners and the six sites that were added to the project (along with nearly 100 other employers who took advantage of JobLink's services) is perhaps the most straightforward indication of the fact that employers DID benefit from the project. The original nine partners and one of the added six sites together identified 2,200 employees in need of training at the beginning of the project. (This figure represented about 30% of their combined workforce.) During the 3 ½ year length of the project, 40% or 881 employees from these ten companies (the original nine and the largest of the additional six sites) were trained. Partners have a variety of strategies (including continuation of some JobLink programs) to serve the employees who were not trained during the project. (Some of the strategies are discussed in Chapter 6 of this report.)

Comparison of Student Improvement in Different Types of Learning

In order to analyze the effectiveness of the new materials and systems developed during the JobLink project, we compare the results gained in the various modes of instruction. The work site modules were the most traditional of the modes of delivery used in the project and can serve as the benchmark against which the other modes are measured. (It should be remembered, however, that worksite students learned both literacy and teamwork skills. Thus, their literacy skill improvements may have been lower than if they had studied only literacy.)

The following charts compare the score improvements on standardized tests of lab students and work site students. These figures have not been adjusted for length of training or entry level of students. (Keep in mind, lab students participated in a multi-modal environment that was individualized through the use of computer-based instruction and enriched with access to Internet resources.)

Comparison of Score Improvements

Lab and Worksite Students

Chart 7-1

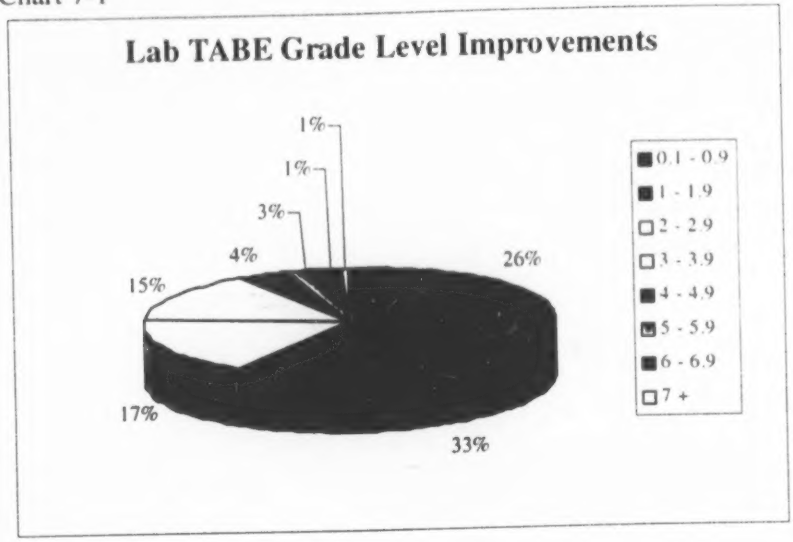
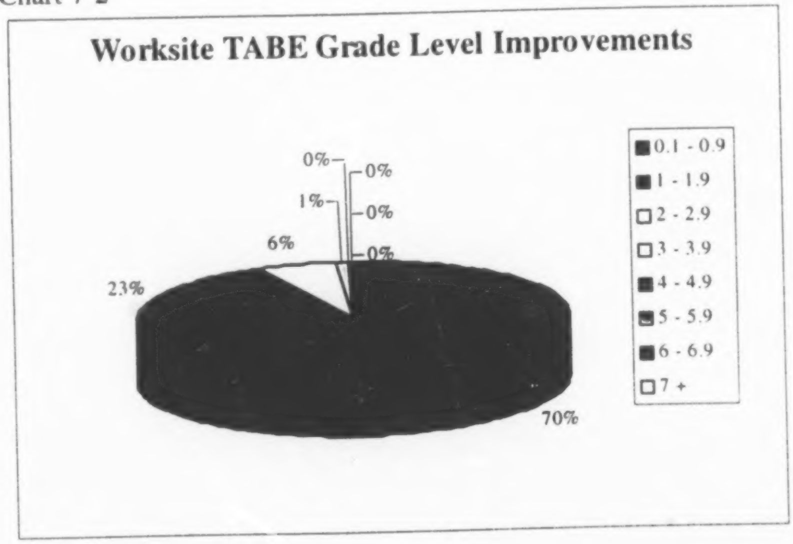


Chart 7-2



A large majority of worksite students (70%) made grade level improvements of less than 1.0 as measured by the TABE Reading Comprehension test. Lab students' average score improvement was 49% as compared to an average improvement of 21% for worksite students.

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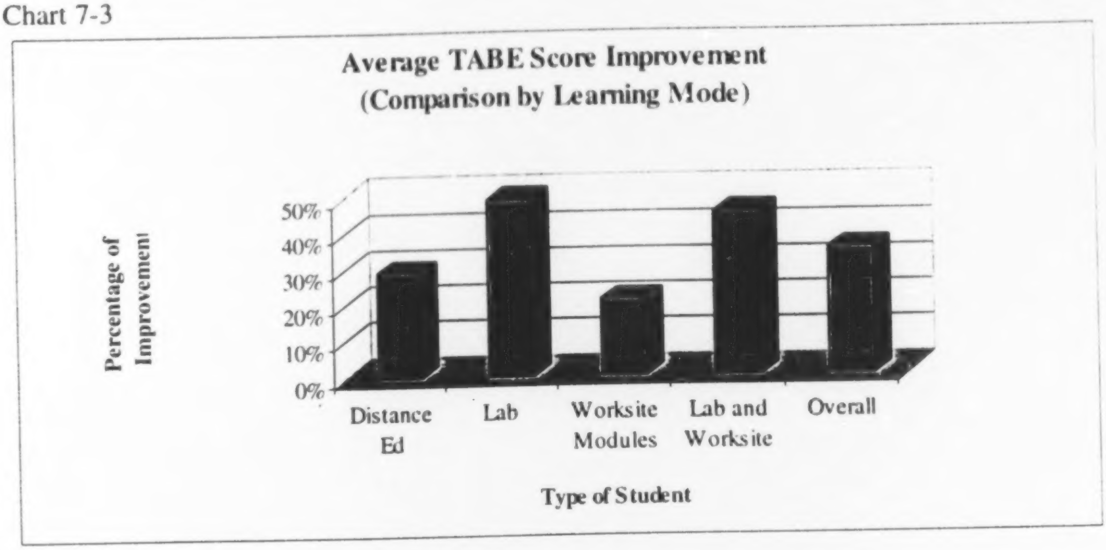
Overall, lab students made greater score improvements than any other group of students, as can be seen from the following chart.

Chart 7-3



Here is how the JobLink students who participated in different types of training compared:

Table 7-1

Student Comparison By Learning Mode

	D. Ed	Lab	Worksite
Average TABE improvement (pre- and post-tested)	29%	49%	21%
Average Pre (TABE)	4.8	3.9	3.1
Average Post (TABE)	6.2	5.8	3.7
Average Grade Level Improvement	1.4	1.9	0.6
Median Pre (TABE)	5.2	3.2	2.7
Median Post (TABE)	6.1	5.3	3.4
Average hours per student (pre- and post-tested students)	52.4	94.7	38.8
Years of School Completed in the United States			
No Response	0%	32%	43%
No Schooling	28%	21%	18%
1 - 5 years	50%	22%	20%
6 - 8 years	8%	3%	4%
9 years	4%	2%	2%
10 years	5%	3%	1%
11 years	4%	3%	1%
12 or more years	1%	14%	11%
Years of School Completed in a Foreign Country			
No Response	0%	30%	35%
No Schooling	10%	3%	4%
1 - 5 years	13%	13%	10%
6 - 8 years	14%	14%	14%
9 years	21%	8%	7%
10 years	4%	7%	6%
11 years	3%	3%	5%
12 or more years	34%	22%	21%
Plan to take in the future			
A basic skills course in reading, writing, or math:	77%	78%	83%
A course in using English (such as ESL):	78%	77%	80%
A computer course:	83%	76%	75%
A GED course or the GED exam:	32%	49%	58%
Courses to get an occupational certificate:	51%	43%	50%
A job training course:	71%	51%	62%
Courses leading to a 2-year or 4-year college degree:	51%	44%	58%
A home-study course:	78%	34%	48%

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Table 7-1 Contd.

Comparison Table All Learning Modes (All Students) Continued

	D. Ed	Lab	Worksite
Since this course begun, have you?			
Learned what you wanted to learn in this course?	93%	90%	93%
Changed your educational or career goals?	65%	77%	72%
Had more responsibility added to your job?	79%	63%	60%
Moved to a shift you prefer?	11%	30%	41%
Switched from part-time to full-time?	12%	15%	13%
Received a pay raise?	27%	27%	24%
Been promoted?	20%	23%	19%
Received an award, bonus, or other special recognition on your job?	27%	19%	19%
Received your GED?	9%	19%	11%
Applied for a new job?	13%	17%	10%
Started a new job at another company?	2%	15%	6%
Been laid off?	2%	9%	2%
Left your job for any other reason?	5%	3%	2%
Self Noted Abilities Improvement			
Read English	53%	47%	37%
Understand English	43%	35%	23%
Speak English	43%	43%	30%
Write English	33%	52%	35%
Work as part of a team	45%	25%	17%
Use Math	41%	48%	35%
Solve problems	49%	40%	26%
US Born (by percentage)			
No Response	0%	5%	4%
Yes	8%	14%	11%
No	92%	80%	85%
English Spoken at Home (by percentage)			
No Response	0%	6%	7%
Yes	22%	27%	24%
No	78%	67%	69%
Average length of employment	10 yrs. 4 mos.	7 yrs. 6 mos.	7 yrs. 11 mos.

In looking at the changes that training may have brought in the workplace, lab and worksite students were less likely than distance learning students to have had more responsibility added to their jobs. Work site students reported being moved to a shift they preferred more often than lab or distance students.

The three types of students show more than 10% difference in their self-assessments on the factors that measure interest in a job training course (more distance learning students are

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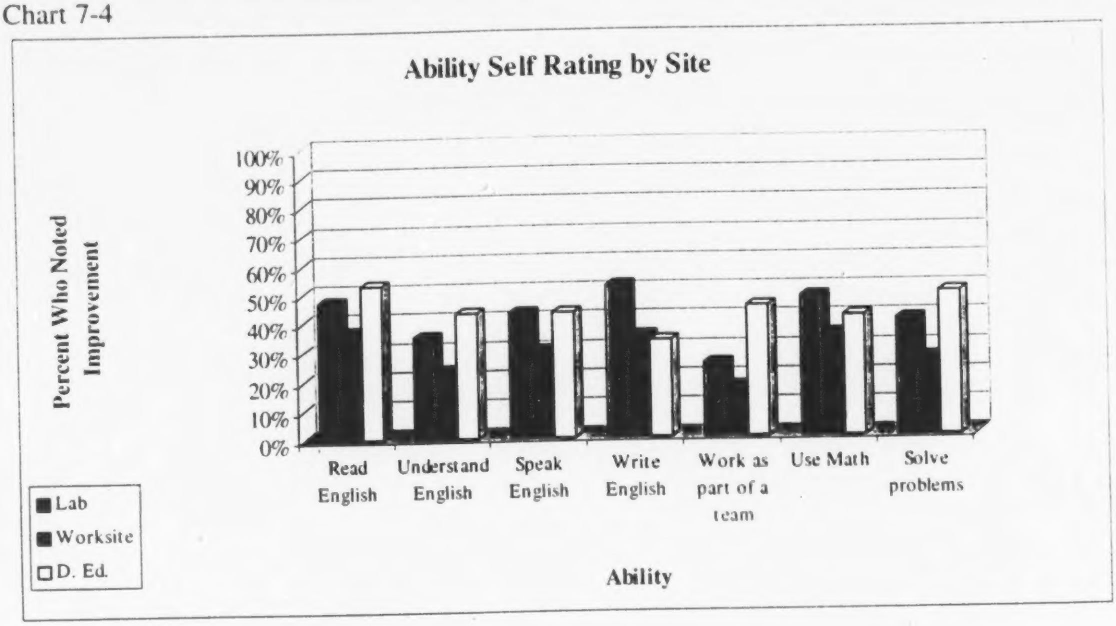
interested), plans to take college degree courses (14% fewer lab students than worksite students indicated this interest), and home-study courses (almost twice as many distance learning students indicated an interest in this option as lab students).

Chart 7-4



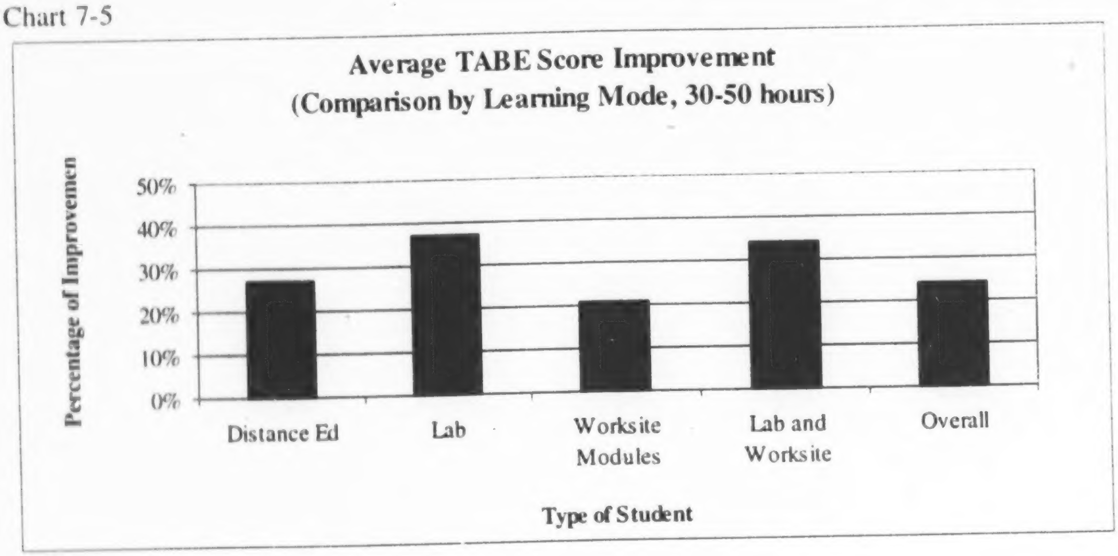
Significant differences in self improvements were noted by the three types of students. Distance education students rated their improved ability to read and understand English slightly greater than Lab students and significantly greater than work site students. Both lab and distance students were more likely to note improved ability to speak English than their work site counterparts (43% versus 30%). In spite of the reliance of the distance learning program on writing, 52% of the lab students felt they improved in writing as opposed to only 33% and 35% of work site and distance students respectively.

As noted earlier in this report, the most dramatic difference in the three groups was in the students' perceived improvement in ability to work as part of a team. Forty-five percent of distance students reporting this improvement while only 25% of lab students and 17% of work site students noted similar improvement. This is especially significant since worksite students were learning team skills along with their literacy skills. We believe distance students showed these improved team skills because they formed spontaneous collaborative learning teams at the work site and because there was a team work segment in every distance learning lesson. In the team work segment students had to go back to the shop floor and complete assignments that required them to practice new team skills in everyday situations.

Score Improvement on Standardized Tests Adjusted for Persistence

When we adjust average score improvements for time spent in class, we see that the earlier pattern persists, although differences in progress of distance education and lab students is smaller.

Chart 7-5



In adjusting the statistics for student persistence, we see a leveling of the difference in score improvement on standardized tests. With all student groups consisting only of students who studied between 30-50 hours, some of the differences in students disappear. In fact, the difference between improvement of lab and distance education students is only 0.1 grade level. This translates into a 10% difference when expressed as a percentage because of the higher entry level score of distance education students as shown on the following table. (Their 1.4 average grade level improvement is only 27% of their 5.3 grade level entry score.) The similarity in performance of distance students and lab students may result from several factors. *Both groups worked in computer mediated environments that were highly individualized.*

Because distance students were part of a limited pilot test at their companies, their progress may in part be due to the Hawthorne effect, i.e. they felt important and that affected improved performance.

Table 7-5

Comparison Table (Lab and Worksite, 30-50 hours)

	D. Ed.	Lab	Worksite
Average TABE improvement	27%	37%	21%
Average Pre (TABE)	5.3	3.8	3.1
Average Post (TABE)	6.7	5.3	3.8
Average Grade Level Improvement	1.4	1.5	.0.7
Median Pre (TABE)	5.4	3.5	2.8
Median Post (TABE)	6.4	4.8	3.7
Years of School Completed in the United States			
No Response	0%	30%	51%
No Schooling	28%	15%	19%
1 - 5 years	50%	30%	17%
6 - 8 years	8%	7%	5%
9 years	4%	0%	2%
10 years	5%	4%	1%
11 years	4%	0%	1%
12 or more years	1%	15%	4%
Years of School Completed in a Foreign Country			
No Response	0%	30%	39%
No Schooling	10%	0%	4%
1 - 5 years	13%	15%	11%
6 - 8 years	14%	22%	18%
9 years	21%	0%	7%
10 years	4%	0%	4%
11 years	3%	11%	2%
12 or more years	34%	22%	14%
Self Noted Abilities Improvement			
Read English	40%	50%	42%
Understand English	40%	21%	31%
Speak English	48%	38%	29%
Write English	40%	57%	33%
Work as part of a team	24%	43%	29%
Use Math	35%	38%	27%
Solve problems	57%	62%	30%
US Born (by percentage)			
No Response	0%	7%	4%
Yes	8%	11%	4%
No	92%	82%	92%
English Spoken at Home (by percentage)			
No Response	0%	3%	2%
Yes	22%	30%	14%
No	78%	67%	84%

Self assessment responses.

Table 7-6

Question asked:	**Responses**		
In the future, do you plan to take any of the following courses?		**Yes***	
	D. Ed.	**Lab**	**Wksite**
A basic skills course in reading, writing, or math:	24%	64%	82%
A course in using English (such as ESL):	23%	54%	79%
A computer course:	88%	71%	78%
A GED course or the GED exam:	32%	75%	55%
Courses to get an occupational certificate:	57%	42%	63%
A job training course:	73%	33%	75%
Courses leading to a 2-year or 4-year college degree:	50%	33%	50%
A home-study course:	82%	50%	63%
Since this course began, have you:		**Yes***	
Learned what you wanted to learn in this course?	92%	17%	96%
Changed your educational or career goals?	67%	7%	70%
Had more responsibility added to your job?	76%	0%	72%
Moved to a shift you prefer?	14%	0%	15%
Switched from part-time to full-time?	9%	0%	9%
Received a pay raise?	30%	7%	20%
Been promoted?	26%	0%	13%
Received an award, bonus, or other special recognition on your job?	30%	0%	22%
Received your GED?	5%	0%	7%
Applied for a new job?	13%	0%	11%
Started a new job at another company?	0%	0%	2%
Been laid off?	0%	0%	2%
Left your job for any other reason?	0%	0%	0%

On the students' self-noted abilities, the same patterns exist as noted earlier for the entire population of the three types of students.

Comparison of Student With More Than 100 Hours of Study to All JobLink Students

Because persistence seemed to be related to improvement, we felt it was important to explore the characteristics of students who displayed special persistence by participating in voluntary programs for more than 100 hours. Those students are typified in the following table and are

---

[*] Percent of those who answered this question.

compared to the general population of all JobLink students. It will be noted that they made an average improvement in standardized test score that was significantly higher than the general group (76% versus 35%) but this may be attributable, at least in part, to their increased hours of study. Demographically, they are not unlike other JobLink students except that they are less likely to have been born in the USA (95% of them were born outside the US as compared to 83% of the general student population) and are also less likely to speak English at home (79% did not speak English at home as compared to 68% of the general population). **Although it is easy to see the differences in outcomes for the students with increased persistence, there was nothing in their demographics that gave us any clues to why they might have been so motivated!**

Table 7-7

Comparison of Students with More Than 100 Hours of Study to All JobLink Students

	100+	General
Average TABE improvement	76%	35%
Average Pre (TABE)	3.2	3.3
Average Post (TABE)	5.6	4.4
Median Pre (TABE)	2.7	2.8
Median Post (TABE)	5.3	4.2
Average hours per student	191.4	68.6

Summary of Student Progress and Characteristics by Length of Study (For all Types of Learning)

Table 7-8

Hour Range	TABE Improvement	Average Entry Level TABE	English Spoken at Home	Age	Gender		Wage	Length of Employment
					Female	Male		
10-30	28%	3.1	20%	36	48%	41%	$ 9.47	6.8 years
30.5-50	23%	3.2	16%	38	58%	40%	$ 10.12	8.6 years
50.5-100	33%	3.4	22%	40	63%	34%	$ 10.39	8.1 years
100.5 +	76%	3.2	19%	40	53%	48%	$ 10.40	7.8 years

As the summary table shows, there were more similarities than differences among students in the various length of study groups. Improvement on standardized test scores was very consistent for all students who studied less than 100 hours, and increased dramatically (more than doubled) at that point. The average entry level score was very similar for all four groups, ranging between 3.1 and 3.4. A review of all other statistics indicates no significant difference in characteristics for the four groups of students.

Student Progress and Characteristics by Range of Improvement

Table 7-9

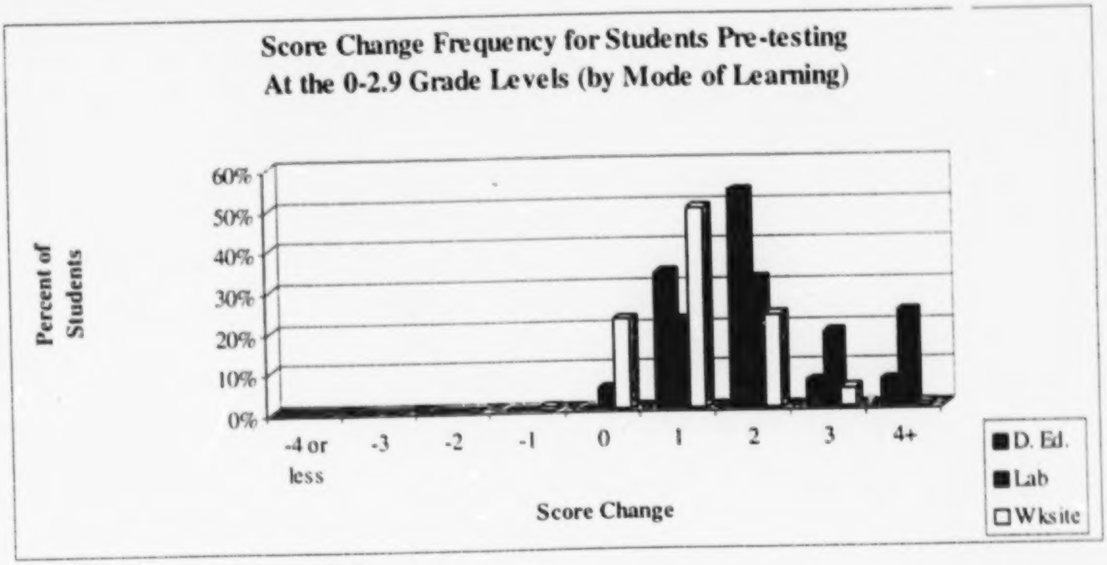
Student Characteristics by Range of Grade Level Improvement							
(All Pre- and Post-tested)							
		Average Hours		**6+ Years of School**		**English Spoken at Home**	
Range	**Number of Students**	**LAB**	**Worksite**	**In the US**	**In other country**	**No**	**Yes**
0.1 - 0.9	163	53.2	39.1	15%	54%	72%	18%
1 - 1.9	123	76.6	39.6	18%	51%	75%	20%
2 - 2.9	50	115.2	50.4	18%	58%	76%	22%
3 - 3.9	31	125.1	40.5	16%	65%	77%	16%
4 - 4.9	11	115.7	41.7	18%	55%	64%	36%
5 +	11	146.8	35.6	45%	45%	55%	36%

When analyzed as a function of grade level score improvements, several of the characteristics of students show predictable patterns. Average hours are in direct relationship to score improvements although there are two categories where the relationship does not hold (at the 2.0-2.9 range for worksite students and at the 4.0-4.9 range for lab students). Possibly the most notable relationship in this summary data is the much higher percent (45% as compared to 15%-18%) of students making over 5.0 grade levels of improvement who had over 6 years of schooling in the US. Also, students making over 4.0 grade levels of improvement were twice as likely to speak English at home 36% as opposed to 16%-20% of students who made less improvement. Though the groups of students who have 4.0-4.9 and 5.0-5.9 are small (11 students each) the trends are interesting.

Student Improvements By Entry Grade Level Score

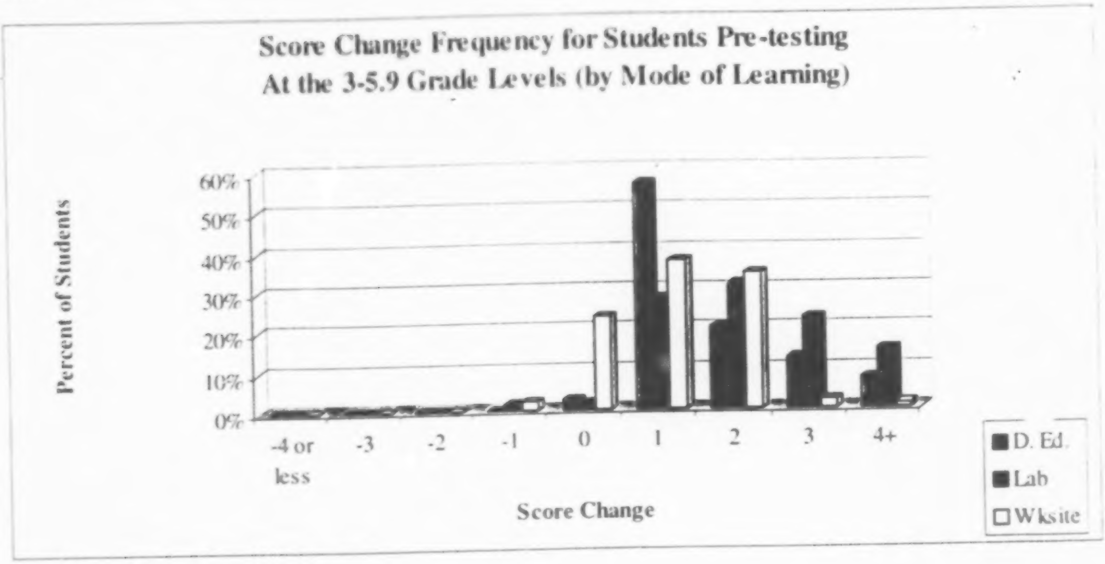
These last three charts indicate the differences in student progress as related to the entry grade level of the students.

Chart 7-6



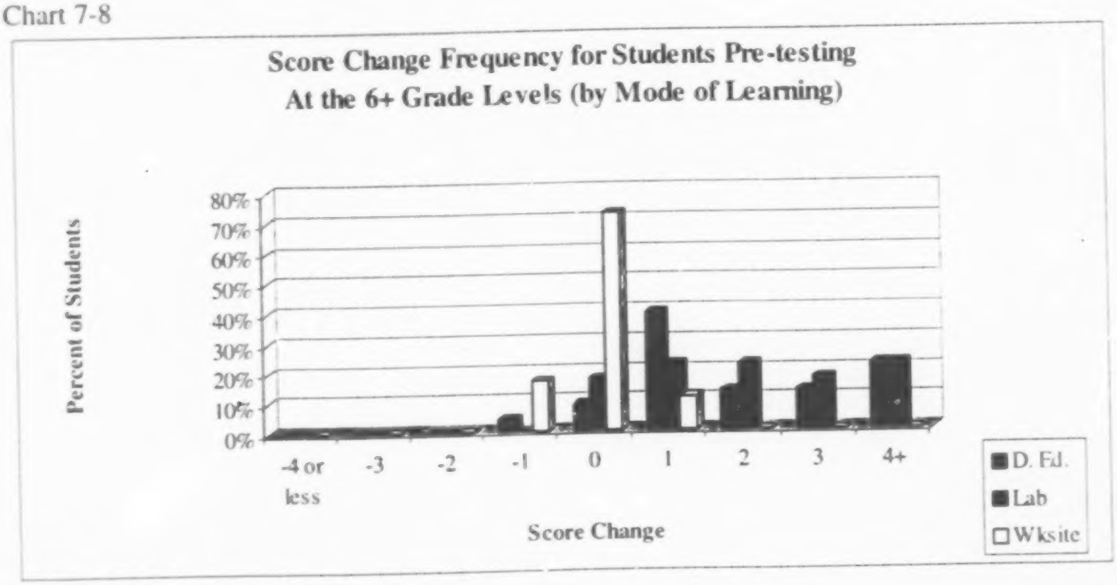
Students entering at this very low level (0-2.9 grade level) were more likely to make 2-4 grade levels of improvement if they were lab students. This reflects the added learning advantage to those students of the individualized approach and attention they received in the lab. As the chart clearly shows, worksite students at this low level were most likely to make 0-1 grade levels of improvement while distance learning students most frequently made improvements of 1-2 grade levels.

Chart 7-7



Students who entered the program at the 3.0-5.9 grade level were also more likely to make 3-4 grade levels of progress if they were lab students. Distance learning students entering at this level were most likely to improve by 1.0 grade level, while worksite students in this group made 2-3 grade levels of improvement.

Chart 7-8



In this higher level group, with students entering at or above the 6.0 grade level, both lab and distance learning students were about equally as likely to make improvements of 2-4 grade levels. Worksite students entering at this level were highly likely to make no or less than 1 grade level improvement. This may reflect the fact that the worksite modules were designed for lower level students and since they were not individualized the higher level students were not likely to make improvements as a result of this training.

CONCLUSION

As a result of the many activities and programs designed and developed during JobLink's 3 ½ year program, much was learned about the workplace literacy student and successful learning strategies and programs. Some of the most notable observations are summarized here as a way of concluding this final evaluation and report.

- Though expensive and costly to develop, multimedia materials offer literacy students many advantages, including the ability to function in a self-paced environment where audio and video files enhance the learning experience.
- The traditional learning lab approach can be improved by adding the following components: multimedia materials, Internet access, geographic proximity to the workplace, employer support and recognition for student efforts, and the opportunity to learn skills and material that will be immediately and directly applicable on the job.
- When supervisors know about employees training and acknowledge or support it, employees self-assessment and likelihood of future training increases along with employees' persistence and retention in voluntary programs.
- The concept of Return On Investment (ROI) can be introduced first as a personal measure of payback for time spent in training and then expanded to cover numerous job-related skills that are taught in literacy programs. When employees and their supervisors both rated the ROI for literacy training, supervisors tended to rate employee progress more positively than the employees themselves.

- One of the dissemination techniques that supports Internet-based training is marketing over the Internet, where programs can be demonstrated and field-tested with all of their capabilities fully functional.
- The JobLink partner companies provided significant training opportunities for their employees before the JobLink project and will continue to do so now that the project funding has ended. By establishing computerized learning centers and libraries at each of their sites, they have built the infrastructure for their employees to continue to participated in the JobLink distance learning program.
- The JobLink distance learning program was one of the first (if not the first) Internet-based programs built for workplace literacy students in the country. Its success opens the door to using the Internet as a powerful learning tool for the literacy student. The obvious interest of JobLink students in participating in an Internet-based program and the new skills they learned encourage us to continue developing literacy programs that use the latest technologies.

Appendix A

Job Analysis

OCCUPATION OVERVIEW: ASSEMBLER, ELECTRONICS

JOB SUMMARY

Performs any combination of tasks to assemble electronic components, subassemblies, products or systems. Uses a variety of hand and specialized tools to work with materials. Involved in a variety of techniques and processes to connect and bond components for production purposes.

REQUISITE QUALIFICATIONS

Knowledge: Competence in blueprint reading. Familiar with ESD training. Reading and writing in basic English. Familiar with use of hand tools.

Education: High School graduate or GED.

Experience: Previous assembler experience of one year.

Licensure/Certification: ISO certification suggested.

Safety considerations: Participates in safety awareness training.

Production standards: Standards are directly related to job assignment.

LITERACY DEMANDS

Reading, writing, speaking and listening in English to receive, understand and follow instructions accurately and as directed. Able to write notes, fill out tags, labels and complete records either on paper or with a computer program. Able to communicate with supervisors and co-workers, to express own thoughts and to participate in group discussions and team meetings. Able to talk with customers regarding product either on the telephone or, in some instances, in person. Able to comprehend technical instructions on a variety of machines, equipment and tools including specialized devices, involving the use of chemicals. Must participate fully in training and instructional programs. Able to work with numbers, using a calculator and measurement devices such as gauges, scales and sensors. Must interpret statistical data and information on charts or graphs.

OCCUPATIONAL TASKS

Reads work orders, follows production drawings and sample assemblies, or receives verbal instructions regarding duties to be performed on a variety of components including power meters, cables, flow force or pressure measuring instruments, chassis boards, detectors, switches, and frames.

Positions and aligns parts in specified relationship to each other in jig, fixture, or other holding device. Crimps, stakes, screws, bolts, rivets, welds, solders, cements, press fits, or performs similar operations to join or secure parts in place, using handtools, power tools, machines, and equipment.

Mounts assembled components, such as transformers, resistors, transistors, capacitors, integrated circuits, and sockets, on chassis panel by hand or utilizing surface mount technology (SMT).

Connects component lead wires to printed circuit or routes and connects wires between individual component leads and other components, connectors, terminals, and contact points, using soldering, welding, thermocompression, or related bonding procedures and equipment.

Installs finished assemblies or subassemblies in cases and cabinets. Assembles and attaches hardware, such as caps, clamps, knobs, and switches, to assemblies. Performs intermediate assembly tasks, such as potting, encapsulating, sanding, cleaning, epoxy bonding, curing, stamping, etching, impregnating, and color coding parts and assemblies.

Tends machines that press, shape, or wind component parts. Adjusts or trims materials from components to achieve specified electrical or dimensional characteristics.

Performs on-line go-not-go testing and quality inspection, using magnifying devices, measuring instruments, and electronic test equipment, to ensure parts and assemblies meet production specifications and standards.

Confers with department supervisors and co-workers to determine production schedules and order of work performance.

Performs duties as a member of team to improve production.

May perform assembly operations under microscope or other magnifying device, utilize voltmeters, oscilloscopes and various gauges.

May instruct or direct other workers on the job.

WORKER TRAITS

GEDs
Reasoning..3
Math.......3
Language...3

DPTs
Data.......3
People.....6
Things.....1

SVP........4

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..3
P-Form.....3
Q-Clerical.4
K-Motor....3
F-Finger...2
M-Manual...2
E-Eye-Hand.5
C-Color....4

PHYSICAL
Strength.L
Climb....O
Balance..N
Stoop....O
Kneel....N
Crouch...N
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....O
Hear.....O
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....F
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......3
Vibration...N
Atmosph.....N
Mech Parts..N
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....N
R-Repete....Y
I-Influence.N
V-Varied....N
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..Y
P-People.N
J-Judge..Y

GOE...06

Sources of additional information related to this analysis include the occupational titles:

ELECTRONICS ASSEMBLER	726.684-018
ASSEMBLER AND TESTER, ELECTRONICS	710.281-010
ASSEMBLER AND WIRER, INDUSTRIAL EQUIPMENT	826.361-010

Occupation: Assembler, Electronics

The three highest rated worker tasks thought to be most impacted by the literacy of the worker include: .

Reads work orders, follows production drawings and sample assemblies, or receives verbal instructions regarding duties to be performed on a variety of components including power meters, cables, flow force or pressure measuring instruments, chassis boards, detectors, switches, and frames.

Connects component lead wires to printed circuit or routes and connects wires between individual component leads and other components, connectors, terminals, and contact points, using soldering, welding, thermocompression, or related bonding procedures and equipment.

Performs on-line go-not-go testing and quality inspection, using magnifying devices, measuring instruments, and electronic test equipment, to ensure parts and assemblies meet production specifications and standards.

Occupation: Assembler, Electronics

The following are factors identified by the various partner companies as return on investment measures which help identify worker performance.

Quantifiable production standards

- Units per hour
- Units per shift
- Units per department
- Workmanship errors
- Safety/accident occurrences

Efficiency ratings

- Turn around time
- Work hours per operation
- Cost per operation
- Scrap rates
- Actual labor vs. standard labor

Worker attitudes

- Presenteeism
- Participation in programs
- Suggestions, recommendations
- Cooperation

Occupation: Assembler, Electronics

The following requirements represent the consensus of respondents:

WORKER REQUIREMENTS

	Ver.	Ra.	Fu.
Reading			
1 follow uncomplicated instructions in oral or written form	Y	[✓ 1] 2 3	Y
2 follow detailed instructions in written, oral or diagrammatic form	Y	[✓ 1] 2 3	Y
3 read signs, labels, handbooks, forms	Y	1 [✓ 2] 3	Y
4 read memos, safety rules, instructions	Y	1 [✓ 2] 3	Y
5 read blueprints, schematics, diagrams	Y	[✓ 1] 2 3	Y
Writing			
6 write notes, memos, tags, labels	Y	1 [✓ 2] 3	Y
7 complete records, charts, tables	Y	1 [✓ 2] 3	Y
8 write letters, reports	N	1 2 3	Y
Oral Communication			
9 speak and/or understand English	Y	[✓ 1] 2 3	Y
10 ask for assistance, more information	Y	1 [✓ 2] 3	Y
11 request materials, parts	Y	1 [✓ 2] 3	Y
12 participate in group discussions	Y	1 [✓ 2] 3	Y
13 communicate with customers	Y	1 [✓ 2] 3	Y
Problem Solving			
14 solve problems in standard situations	Y	1 [✓ 2] 3	Y
15 solve problems involving many variables	Y	1 [✓ 2] 3	Y
16 solve problems using broad interpretation	Y	1 [✓ 2] 3	Y
Performance			
17 operate more than one machine, tool	Y	1 [✓ 2] 3	Y
18 organize own work day/time	Y	[✓ 1] 2 3	Y
19 set up/adjust own equipment	Y	1 [✓ 2] 3	Y
20 assist and/or direct others on the job	Y	1 [✓ 2] 3	Y
21 remember information	Y	1 2 3	Y
22 work as a team member	Y	1 2 3	Y
Knowledge			
23 complete special training on the job	Y	[✓ 1] 2 3	Y
24 collect, analyze, or examine data	Y	1 2 3	Y
25 use of resource documentation	Y	1 [✓ 2] 3	Y
Numbers			
26 copy and/or compare numbers	Y	1 [✓ 2] 3	Y
27 use a calculator	Y	1 [✓ 2] 3	Y
28 calculate with fractions	Y	1 2 [✓ 3]	Y
Measurement			
29 measure with tapes, scales, gauges	Y	[✓ 1] 2 3	Y
30 convert units of measurement	Y	1 2 3	Y
31 read/interpret data from digital devices	Y	1 [✓ 2] 3	Y
Principles			
32 input/interpret computer data	Y	1 2 3	Y
33 interpret graphs or charts	Y	1 2 3	Y
34 record statistical information	Y	1 [✓ 2] 3	Y

Rating scale: 1 = Vital, 2 = Important, 3 = Needed

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ELECTRONICS ASSEMBLER

WORKER TASKS

Reads work orders, follows production drawings and sample assemblies, or receives verbal instructions regarding duties to be performed on a variety of components including power meters, cables, flow force or pressure measuring instruments, chassis boards, detectors, switches, and frames.

Positions and aligns parts in specified relationship to each other in jig, fixture, or other holding device. Crimps, stakes, screws, bolts, rivets, welds, solders, cements, press fits, or performs similar operations to join or secure parts in place, using handtools, power tools, machines, and equipment.

Mounts assembled components, such as transformers, resistors, transistors, capacitors, integrated circuits, and sockets, on chassis panel by hand or utilizing surface mount technology (SMT).

Connects component lead wires to printed circuit or routes and connects wires between individual component leads and other components, connectors, terminals, and contact points, using soldering, welding, thermocompression, or related bonding procedures and equipment.

Installs finished assemblies or subassemblies in cases and cabinets. Assembles and attaches hardware, such as caps, clamps, knobs, and switches, to assemblies. Performs intermediate assembly tasks, such as potting, encapsulating, sanding, cleaning, epoxy bonding, curing, stamping, etching, impregnating, and color coding parts and assemblies.

Tends machines that press, shape, or wind component parts. Adjusts or trims materials from components to achieve specified electrical or dimensional characteristics.

Performs on-line go-not-go testing and quality inspection, using magnifying devices, measuring instruments, and electronic test equipment, to ensure parts and assemblies meet production specifications and standards.

Confers with department supervisors and co-workers to determine production schedules and order of work performance.

Performs duties as a member of team to improve production.

May perform assembly operations under microscope or other magnifying device, utilize voltmeters, oscilloscopes and various gauges.

May instruct or direct other workers on the job.

ELECTRONICS ASSEMBLER

WORKER TRAITS

GEDs
Reasoning..3
Math.......3
Language...3

DPTs
Data.......3
People.....6
Things.....1

SVP........4

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..3
P-Form.....3
Q-Clerical.4
K-Motor....3
F-Finger...2
M-Manual...2
E-Eye-Hand.5
C-Color....4

PHYSICAL
Strength.L
Climb....O
Balance..N
Stoop....O
Kneel....N
Crouch...N
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....O
Hear.....O
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....F
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......3
Vibration...N
Atmosph.....N
Mech Parts..N
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....N
R-Repete....Y
I-Influence.N
V-Varied....N
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..Y
P-People.N
J-Judge..Y

GOE...06

Sources of additional information related to this analysis include the occupational titles:

ELECTRONICS ASSEMBLER	726.684-018
ASSEMBLER AND TESTER, ELECTRONICS	710.281-010
ASSEMBLER AND WIRER, INDUSTRIAL EQUIPMENT	826.361-010

JOB ANALYSIS INTERVIEW QUESTIONS - REASONING

Understanding instructions

Do you understand and carry out instructions:

in simple one and two step descriptions	[✓ Y]	N
in detailed, but uninvolved oral form	[✓ Y]	N
in detailed, but uninvolved written form	[✓ Y]	N
in detailed written or diagrammatic form	[✓ Y]	N
in accordance with a rational system	Y	[✓ N]
in a manner with limited standardization	Y	[✓ N]

Problem solving

Do you deal with problems involving:

standardized situations, no variables	[✓ Y]	N
standardized situations, few variables	[✓ Y]	N
standardized situations, many variables	[✓ Y]	N
few standards, variety of variables	Y	[✓ N]
interpretation of variety of instructions	[✓ Y]	N
interpretation of extensive instruction	[✓ Y]	N
logical, scientific thought	Y	[✓ N]
several abstract and concrete variables	Y	[✓ N]

Performance

Are you responsible for:

assisting, directing others on the job	[✓ Y]	N
operation of one or two similar machines	[✓ Y]	N
operation of several types of machines	[✓ Y]	N
organizing your own work time	[✓ Y]	N
setting up, adjusting your own equipment	[✓ Y]	N
performing a variety of duties	[✓ Y]	N
remembering information	[✓ Y]	N
working as a team member	[✓ Y]	N

Knowledge

Does you job require:

skills, ability in one area	[✓ Y]	N
skills, ability in a multiple areas	Y	[✓ N]
special training, specific preparation	[✓ Y]	N
collection, analysis, examination of data	[✓ Y]	N
use of resource documentation	[✓ Y]	N
use of special techniques, processes	Y	[✓ N]

JOB ANALYSIS INTERVIEW QUESTIONS - MATH

Numbers

Do you work with numbers:

in counting, copying, comparing	[✓ Y]	N
in addition, subtraction	[✓ Y]	N
in multiplication, division	[✓ Y]	N
in decimals, fractions	[✓ Y]	N
in computing ratio, rate, percent	[✓ Y]	N
in calculating surfaces, volumes	[✓ Y]	N
in calculating weights, measures	[✓ Y]	N
in calculating plane, solid figures	Y	[✓ N]
in graphs, charts, tables	[✓ Y]	N
in computer applications	[✓ Y]	N

____

Measurement instruments

Do you work with:

a calculator, ten-key adding machine	[✓ Y]	N
a ruler, yardstick, tape measure	[✓ Y]	N
a spring loaded or electronic scale	[✓ Y]	N
a compass, protractor	Y	[✓ N]
a dial-read or digital gauge, ammeter	[✓ Y]	N
a manual or digital caliper, micrometer	Y	[✓ N]
other measuring devices	[✓ Y]	N

____

Principles

Do you work with:

algebra, plane and solid geometry	Y	[✓ N]
shop math, mechanics, layout	Y	[✓ N]
conversion of units of measurement	[✓ Y]	N
linear-quadratic equations	Y	[✓ N]
statistical methods, analytical geometry	Y	[✓ N]
advanced calculus, modern algebra	Y	[✓ N]

____

Comments:____

____

____

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JOB ANALYSIS INTERVIEW QUESTIONS - LANGUAGE

Reading

Do you have to read and interpret:

signs, symbols, labels	[✓ Y]	N
employee handbooks, forms	[✓ Y]	N
letters, memos, policy procedures	[✓ Y]	N
safety rules for equipment use	[✓ Y]	N
written work instructions	[✓ Y]	N
parts lists, files, orders	[✓ Y]	N
schematics, blueprints, diagrams	[✓ Y]	N
charts, graphs, tables	[✓ Y]	N
gauges, dials, switches	[✓ Y]	N
illustrations, technical drawings	Y	[✓ N]
technical instruction manuals	[✓ Y]	N
contracts, reports	Y	[✓ N]

Writing

Do you have to write:

legibly in cursive style	Y	[✓ N]
part numbers on forms	[✓ Y]	N
notes, memos, "chits", tags	[✓ Y]	N
filling in charts, tables	[✓ Y]	N
completing records, files	[✓ Y]	N
to copy or record information	[✓ Y]	N
using a computer program	[✓ Y]	N
letters, reports	Y	[✓ N]

Oral Communication

Do you have to:

understand English	[✓ Y]	N
follow oral instructions	[✓ Y]	N
understand a group discussion	[✓ Y]	N
speak English	[✓ Y]	N
ask for clarification or more info	[✓ Y]	N
call for assistance, repair	[✓ Y]	N
request materials or parts	[✓ Y]	N
use a telephone	[✓ Y]	N
speak clearly and distinctly	[✓ Y]	N
speak using correct pronunciation	Y	[✓ N]
speak as a member in a group	[✓ Y]	N
talk with customers	[✓ Y]	N
instruct others	[✓ Y]	N
offer suggestions, recommendations	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - DEXTERITY

Motor coordination

On the job, are you required to:

work with your eyes and hands or fingers	[✓ Y]	N
make precise movements with speed	[✓ Y]	N
move hands, fingers accurately	[✓ Y]	N
align workpiece to be machined	[✓ Y]	N
adjusting presses, cutters, tools	[✓ Y]	N
calibrate equipment with testing devices	Y	[✓ N]

Finger dexterity

Does your job require you to:

manipulate small objects rapidly,accurately	[✓ Y]	N
work with small, precise hand tools	[✓ Y]	N
use a magnifying lens for precision work	[✓ Y]	N
grasp items with tweezers	[✓ Y]	N
remove parts from jigs, fixtures quickly	Y	[✓ N]
place labels, tags in precise location	[✓ Y]	N
position and move very small parts	[✓ Y]	N

Manual dexterity

Are you required to have the ability to:

work with your arms and hands	[✓ Y]	N
move hands easily and skillfully	[✓ Y]	N
use your hands in turning, placing motions	[✓ Y]	N
manipulate tools with one/both hands	[✓ Y]	N
use control switches, buttons, levers	[✓ Y]	N
build, set-up machines and equipment	Y	[✓ N]
use hands repetitively with moderate force	Y	[✓ N]

Comments: ____________________

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JOB ANALYSIS INTERVIEW QUESTIONS - PERCEPTION SKILLS

Spatial

Does your job require the ability to:

think visually of geometric forms [✓ Y] N
to align parts in a single plane [✓ Y] N
position objects in relation to others [✓ Y] N
verify placement of components [✓ Y] N
determine size,type of parts from diagram [✓ Y] N
adjust mechanisms according to specs. [✓ Y] N
interpret blueprints, layout procedures [✓ Y] N

Form perception

Are you required to:

perceive detail in objects, graphs, pictures [✓ Y] N
make visual comparisons of items [✓ Y] N
shape, bend, form metal, wood, other material Y [✓ N]
detect flaws in materials by shape,alignment [✓ Y] N
examine material for burrs, excess metal [✓ Y] N
recognize components by size,shape,position [✓ Y] N

Clerical perception

Does your job require you to:

perceive detail in verbal or tabular material [✓ Y] N
identify, compare part numbers on work orders [✓ Y] N
put items in numeric or alpha order [✓ Y] N
observe gauges, dials for precise reading [✓ Y] N
record accurate logs, files, inventories [✓ Y] N
fill out requisitions for material [✓ Y] N
evaluate procedures with tables,charts,graphs Y [✓ N]
post data, edit or prepare reports [✓ Y] N

Color discrimination

Are you required to:

match,discriminate between colors from memory [✓ Y] N
compare batch samples to standards Y [✓ N]
sort by shades, hues, saturation Y [✓ N]
mix pigment, dyes, chemicals for correctness Y [✓ N]
detect differences in color of processed parts [✓ Y] N

Comments:________________________________

OCCUPATION OVERVIEW: ASSEMBLER, MECHANICAL

JOB SUMMARY

Performs a variety of assembly operations using hands, hand tools and specialized equipment to assemble components, parts, subassemblies and complete units on a production assembly operation.

REQUISITE QUALIFICATIONS

Knowledge: Basic English for reading and writing. Competence in blueprint reading. Awareness of tools and processes for assembly operations.

Education: High School graduate or GED.

Experience: Previous experience in mechanical assembly.

Licensure/Certification: In-house certification programs, as needed.

Safety considerations: Participation in safety awareness training.

Production standards: Standards are dependent upon job assignment.

LITERACY DEMANDS

Reading, writing, speaking and listening in English to receive, understand and follow instructions from supervisor and variety of work orders. Able to write notes, tags and keep records of production either on paper or with a computer program. Able to use a computer to check records and determine work assignments. Able to communicate in English with supervisors and co-workers to express own thoughts and to participate in group discussions and team meetings designed to improve performance. Able to understand and interpret operation manuals of variety of tools and equipment including specialized tooling. Must be able to complete training and special instructional programs successfully. Able to work with numbers, use a calculator and perform a variety of measurements with precise measuring instruments. Must understand and interpret data provided in charts and graphs.

OCCUPATIONAL TASKS

Assembles, tests and repairs mechanical, electromechanical equipment and furniture, following work orders, schematics, diagrams, blueprints and using handtools and test equipment.

Follows work order (includes: special or custom orders) to build, bolt, screw, clip, cement, or otherwise fasten parts from materials as specified, utilizing hands and handtools, power tools, bench machines and special processing tools and equipment. Performs fastening, force fitting, or light cutting operations, using machines such as arbor presses, punch presses, taps, or riveters.

Works on service and repair of products of returned articles. Tests components to locate problem areas, shorts, faulty connections, and defective parts, using test equipment. Solders loose connections and replaces defective parts, using handtools soldering stations and precision tooling. Disassembles equipment and repairs or replaces faulty mechanical parts.

Communicates with customers regarding repair work on components.

Maintains records of production either manually or on computer Confers with department supervisors and co-workers on production schedules, problems, etc.

May load and unload previously setup machines, such as arbor presses, drill presses, taps, spot-welding machines, riveting machines, milling machines, or broaches, to perform fastening, force fitting, or light metal-cutting operation on assembly line.

May work at bench as member of assembly group assembling one or two specific parts and passing unit to another worker.

May assist in the training of others on the job.

Occupation: Assembler, Mechanical

The three highest rated worker tasks thought to be most impacted by the literacy of the worker include:

Assembles, tests and repairs mechanical, electromechanical equipment and furniture, following work orders, schematics, diagrams, blueprints and using handtools and test equipment.

Maintains records of production either manually or on computer.

Follows work order (includes:special or custom orders to build, bolt screw, clip, cement, or otherwise fasten parts from materials as specified, utilizing hands and handtools, power tools, bench machines and special processing tools and equipment. Performs fastening, force fitting, or light cutting operations, using hands and/or machines such as arbor presses, punch presses, taps, or riveters.

Occupation: Assembler, Mechanical

The following are factors identified by the various partner companies as return on investment measures which help identify worker performance.

- Quantifiable production standards
    - Units per hour
    - Units per shift
    - Units per department
    - Workmanship errors
    - Safety/accident occurrences
    - Meeting shipping dates
    - Meeting Company sales goals
- Efficiency ratings
    - Actual labor vs. standard labor
    - Turn around time
    - Work hours per operation
    - Cost per operation
    - Scrap rates
    - Cost reduction
    - Maintaining production schedule
    - Engineering re-designs
    - Quantity of products (Assembler product knowledge)
    - Returns due to Assembler error
- Worker attitudes
    - Presenteeism
    - Participation in programs
    - Suggestions, recommendations
    - Attitude & Cooperation
    - Safety
    - Cash Bonus, profit sharing
    - Promotions
    - Self motivation
    - Flexibility
    - TEAMWORK

WORKER TRAITS

GEDs
Reasoning..3
Math.......3
Language...3

DPTs
Data.......2
People.....6
Things.....1

SVP........6

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..3
P-Form.....2
Q-Clerical.4
K-Motor....3
F-Finger...3
M-Manual...2
E-Eye-Hand.5
C-Color....3

PHYSICAL
Strength.M
Climb....N
Balance..N
Stoop....O
Kneel....N
Crouch...N
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....O
Hear.....O
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....O
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......3
Vibration...N
Atmosph.....N
Mech Parts..N
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS
D-Direct....N
R-Repete....N
I-Influence.N
V-Varied....Y
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.N
J-Judge..Y

GOE...06

Sources of additional information related to this analysis include the occupational titles:

ASSEMBLER, ELECTROMECHANICAL	828.381-018
ASSEMBLER, SMALL PARTS I	706.684-022
ASSEMBLER, SMALL PARTS II	729.687-030
ASSEMBLER, METAL FURNITURE	709.684-014
ASSEMBLER ELECTRICAL ACCESS. II	728.384-010

Occupation: Assembler, Mechanical

The following requirements represent the consensus of respondents:

WORKER REQUIREMENTS	**Ver.**	**Ra.**	**Fu.**
Reading			
1 follow uncomplicated instructions in oral or written form	Y	[✓ 1] 2 3	Y
2 follow detailed instructions in written, oral or diagrammatic form	Y	[✓ 1] 2 3	Y
3 read signs, labels, handbooks, forms	Y	1 [✓ 2] 3	Y
4 read memos, safety rules, instructions	Y	[✓ 1] 2 3	Y
5 read blueprints, schematics, diagrams	Y	[✓ 1] 2 3	Y
Writing			
6 write notes, memos, tags, labels	Y	1 2 [✓ 3]	Y
7 complete records, charts, tables	Y	1 [✓ 2] 3	Y
8 write letters, reports	N	1 2 3	N
Oral Communication			
9 speak and/or understand English	Y	1 2 3	Y
10 ask for assistance, more information	Y	[✓ 1] 2 3	Y
11 request materials, parts	Y	1 [✓ 2] 3	Y
12 participate in group discussions	Y	1 2 [✓ 3]	Y
13 communicate with customers	N	1 2 3	N
Problem Solving			
14 solve problems in standard situations	Y	1 [✓ 2] 3	Y
15 solve problems involving many variables	Y	1 [✓ 2] 3	Y
16 solve problems using broad interpretation	N	1 2 3	N
Performance			
17 operate more than one machine, tool	Y	1 2 3	Y
18 organize own work day/time	Y	1 [✓ 2] 3	Y
19 set up/adjust own equipment	Y	1 [✓ 2] 3	Y
20 assist and/or direct others on the job	Y	1 [✓ 2] 3	Y
21 remember information	Y	1 [✓ 2] 3	Y
22 work as a team member	Y	1 [✓ 2] 3	Y
Knowledge			
23 complete special training on the job	Y	1 [✓ 2] 3	Y
24 collect, analyze, or examine data	Y	1 [✓ 2] 3	Y
25 use of resource documentation	Y	1 [✓ 2] 3	Y
Numbers			
26 copy and/or compare numbers	Y	1 [✓ 2] 3	Y
27 use a calculator	Y	1 2 [✓ 3]	Y
28 calculate with fractions	Y	1 2 [✓ 3]	Y
Measurement			
29 measure with tapes, scales, gauges	Y	1 [✓ 2] 3	Y
30 convert units of measurement	Y	1 [✓ 2] 3	Y
31 read/interpret data from digital devices	Y	1 [✓ 2] 3	Y
Principles			
32 input/interpret computer data	Y	1 [✓ 2] 3	Y
33 interpret graphs or charts	Y	1 2 [✓ 3]	Y
34 record statistical information	Y	1 [✓ 2] 3	Y

Rating scale: 1 = Vital, 2 = Important, 3 = Needed

ASSEMBLER

Assembles, tests and repairs mechanical, electromechanical equipment and furniture, following work orders, schematics, diagrams, blueprints and using handtools and test equipment.

Follows work order (includes: special or custom orders) to build, bolt, screw, clip, cement, or otherwise fasten parts from materials as specified, utilizing hands and handtools, power tools, bench machines and special processing tools and equipment. Performs fastening, force fitting, or light cutting operations, using machines such as arbor presses, punch presses, taps, or riveters.

Works on service and repair of products of returned articles. Tests components to locate problem areas, shorts, faulty connections, and defective parts, using test equipment. Solders loose connections and replaces defective parts, using handtools soldering stations and precision tooling. Disassembles equipment and repairs or replaces faulty mechanical parts.

Communicates with customers regarding repair work on components.

Maintains records of production either manually or on computer Confers with department supervisors and co-workers on production schedules, problems, etc.

May load and unload previously setup machines, such as arbor presses, drill presses, taps, spot-welding machines, riveting machines, milling machines, or broaches, to perform fastening, force fitting, or light metal-cutting operation on assembly line.

May work at bench as member of assembly group assembling one or two specific parts and passing unit to another worker.

May assist in the training of others on the job.

WORKER TRAITS

GEDs
Reasoning..3
Math.......3
Language...3

DPTs
Data.......2
People.....6
Things.....1

SVP........6

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..3
P-Form.....2
Q-Clerical.4
K-Motor....3
F-Finger...3
M-Manual...2
E-Eye-Hand.5
C-Color....3

PHYSICAL
Strength.M
Climb....N
Balance..N
Stoop....O
Kneel....N
Crouch...N
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....O
Hear.....O
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....O
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......3
Vibration...N
Atmosph.....N
Mech Parts..N
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS
D-Direct....N
R-Repete....N
I-Influence.N
V-Varied....Y
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
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GOE...06

Sources of additional information related to this analysis include the occupational titles:

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ASSEMBLER, SMALL PARTS II	729.687-030
ASSEMBLER, METAL FURNITURE	709.684-014
ASSEMBLER ELECTRICAL ACCESS. II	728.384-010

JOB ANALYSIS INTERVIEW QUESTIONS - REASONING

Understanding instructions

Do you understand and carry out instructions:

in simple one and two step descriptions	[✓ Y]	N
in detailed, but uninvolved oral form	[✓ Y]	N
in detailed, but uninvolved written form	[✓ Y]	N
in detailed written or diagrammatic form	[✓ Y]	N
in accordance with a rational system	[✓ Y]	N
in a manner with limited standardization	Y	[✓ N]

Problem solving

Do you deal with problems involving:

standardized situations, no variables	[✓ Y]	N
standardized situations, few variables	[✓ Y]	N
standardized situations, many variables	[✓ Y]	N
few standards, variety of variables	[✓ Y]	N
interpretation of variety of instructions	[✓ Y]	N
interpretation of extensive instruction	[✓ Y]	N
logical, scientific thought	Y	[✓ N]
several abstract and concrete variables	Y	[✓ N]

Performance

Are you responsible for:

assisting, directing others on the job	[✓ Y]	N
operation of one or two similar machines	[✓ Y]	N
operation of several types of machines	[✓ Y]	N
organizing your own work time	[✓ Y]	N
setting up, adjusting your own equipment	[✓ Y]	N
performing a variety of duties	[✓ Y]	N
remembering information	[✓ Y]	N
working as a team member	[✓ Y]	N

Knowledge

Does you job require:

skills, ability in one area	[✓ Y]	N
skills, ability in a multiple areas	[✓ Y]	N
special training, specific preparation	[✓ Y]	N
collection, analysis, examination of data	[✓ Y]	N
use of resource documentation	[✓ Y]	N
use of special techniques, processes	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - MATH

Numbers

Do you work with numbers:

in counting, copying, comparing	[✓ Y]	N
in addition, subtraction	[✓ Y]	N
in multiplication, division	[✓ Y]	N
in decimals, fractions	[✓ Y]	N
in computing ratio, rate, percent	[✓ Y]	N
in calculating surfaces, volumes	[✓ Y]	N
in calculating weights, measures	[✓ Y]	N
in calculating plane, solid figures	Y	[✓ N]
in graphs, charts, tables	[✓ Y]	N
in computer applications	[✓ Y]	N

Measurement instruments

Do you work with:

a calculator, ten-key adding machine	[✓ Y]	N
a ruler, yardstick, tape measure	[✓ Y]	N
a spring loaded or electronic scale	[✓ Y]	N
a compass, protractor	Y	[✓ N]
a dial-read or digital gauge, ammeter	[✓ Y]	N
a manual or digital caliper, micrometer	[✓ Y]	N
other measuring devices	[✓ Y]	N

Principles

Do you work with:

algebra, plane and solid geometry	Y	[✓ N]
shop math, mechanics, layout	Y	N
conversion of units of measurement	[✓ Y]	N
linear-quadratic equations	Y	[✓ N]
statistical methods, analytical geometry	Y	[✓ N]
advanced calculus, modern algebra	Y	[✓ N]

Comments: ______________________________

JOB ANALYSIS INTERVIEW QUESTIONS - LANGUAGE

Reading

Do you have to read and interpret:

signs, symbols, labels	[✓ Y]	N
employee handbooks, forms	[✓ Y]	N
letters, memos, policy procedures	[✓ Y]	N
safety rules for equipment use	[✓ Y]	N
written work instructions	[✓ Y]	N
parts lists, files, orders	[✓ Y]	N
schematics, blueprints, diagrams	[✓ Y]	N
charts, graphs, tables	[✓ Y]	N
gauges, dials, switches	[✓ Y]	N
illustrations, technical drawings	[✓ Y]	N
technical instruction manuals	[✓ Y]	N
contracts, reports	Y	[✓ N]

Writing

Do you have to write:

legibly in cursive style	Y	[✓ N]
part numbers on forms	[✓ Y]	N
notes, memos, "chits", tags	[✓ Y]	N
filling in charts, tables	[✓ Y]	N
completing records, files	[✓ Y]	N
to copy or record information	[✓ Y]	N
using a computer program	[✓ Y]	N
letters, reports	Y	[✓ N]

Oral Communication

Do you have to:

understand English	[✓ Y]	N
follow oral instructions	[✓ Y]	N
understand a group discussion	[✓ Y]	N
speak English	[✓ Y]	N
ask for clarification or more info	[✓ Y]	N
call for assistance, repair	[✓ Y]	N
request materials or parts	[✓ Y]	N
use a telephone	[✓ Y]	N
speak clearly and distinctly	[✓ Y]	N
speak using correct pronunciation	[✓ Y]	N
speak as a member in a group	[✓ Y]	N
talk with customers	[✓ Y]	N
instruct others	[✓ Y]	N
offer suggestions, recommendations	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - DEXTERITY

Motor coordination

On the job, are you required to:

work with your eyes and hands or fingers	[✓ Y]	N
make precise movements with speed	[✓ Y]	N
move hands, fingers accurately	[✓ Y]	N
align workpiece to be machined	[✓ Y]	N
adjusting presses, cutters, tools	[✓ Y]	N
calibrate equipment with testing devices	Y	[✓ N]

Finger dexterity

Does your job require you to:

manipulate small objects rapidly,accurately	[✓ Y]	N
work with small, precise hand tools	[✓ Y]	N
use a magnifying lens for precision work	[✓ Y]	N
grasp items with tweezers	[✓ Y]	N
remove parts from jigs, fixtures quickly	Y	[✓ N]
place labels, tags in precise location	[✓ Y]	N
position and move very small parts	[✓ Y]	N

Manual dexterity

Are you required to have the ability to:

work with your arms and hands	[✓ Y]	N
move hands easily and skillfully	[✓ Y]	N
use your hands in turning, placing motions	[✓ Y]	N
manipulate tools with one/both hands	[✓ Y]	N
use control switches, buttons, levers	[✓ Y]	N
build, set-up machines and equipment	[✓ Y]	N
use hands repetitively with moderate force	[✓ Y]	N

Comments:______________________________

JOB ANALYSIS INTERVIEW QUESTIONS - PERCEPTION SKILLS

Spatial

Does your job require the ability to:

think visually of geometric forms	[✓ Y]	N
to align parts in a single plane	[✓ Y]	N
position objects in relation to others	[✓ Y]	N
verify placement of components	[✓ Y]	N
determine size,type of parts from diagram	[✓ Y]	N
adjust mechanisms according to specs.	[✓ Y]	N
interpret blueprints, layout procedures	[✓ Y]	N

Form perception

Are you required to:

perceive detail in objects, graphs, pictures	[✓ Y]	N
make visual comparisons of items	[✓ Y]	N
shape, bend, form metal, wood, other material	[✓ Y]	N
detect flaws in materials by shape,alignment	[✓ Y]	N
examine material for burrs, excess metal	[✓ Y]	N
recognize components by size,shape,position	[✓ Y]	N

Clerical perception

Does your job require you to:

perceive detail in verbal or tabular material	[✓ Y]	N
identify, compare part numbers on work orders	[✓ Y]	N
put items in numeric or alpha order	[✓ Y]	N
observe gauges, dials for precise reading	[✓ Y]	N
record accurate logs, files, inventories	[✓ Y]	N
fill out requisitions for material	[✓ Y]	N
evaluate procedures with tables,charts,graphs	[✓ Y]	N
post data, edit or prepare reports	[✓ Y]	N

Color discrimination

Are you required to:

match,discriminate between colors from memory	[✓ Y]	N
compare batch samples to standards	Y	[✓ N]
sort by shades, hues, saturation	Y	[✓ N]
mix pigment, dyes, chemicals for correctness	Y	[✓ N]
detect differences in color of processed parts	[✓ Y]	N

Comments:______________________________

OCCUPATION OVERVIEW: MACHINE OPERATOR

JOB SUMMARY

Sets up and operates mixing machines to make chemical compounds and metal fabricating machines to cut, bend, straighten, and form metal plates, sheets, and structural shapes according to blueprints and specifications: Selects, positions, and secures dies, blades, cutters, and fixtures onto machine. Positions and clamps stops, guides, and turntables. Starts machine and observes machine operation to inspect process and/or reposition workpiece, or adjust machine settings for multiple or successive passes.

REQUISITE QUALIFICATIONS

Knowledge: Basic English and Mathematics skills.

Education: High School graduate or GED.

Experience: No previous experience required.

Licensure/Certification: In-house certification programs.

Safety considerations: Complies with all safety requirements.

Production standards: Varied depending upon machines operated

LITERACY DEMANDS

Reading, writing, speaking and listening in English to receive, understand and follow instructions on work orders, or from supervisor. Must be able to read gauges and dial indicators on variety of machines in operation. Must be able to create notes, charts or records of production, materials processed and scrap, at times with a computer program. Able to communicate in English with supervisors and co-workers to express own thoughts and to fully participate in group and/or team meetings to determine production schedule and to improve performance. Able to successfully participate in periodic training programs required by the occupation.

OCCUPATIONAL TASKS

Reads and interprets work orders or follows oral instructions to ascertain procedures to be performed.

Operates and tends one or more machine tools, special-purpose machines to process metal or plastic workpieces, fill material, manufacture components to specifications on production basis.

Lifts workpiece and/or material manually or using hoist to secure workpiece in fixture or loads automatic feeding device.

Sets up work station and starts machine, pushes buttons or switches or depresses foot pedal to engage feed, and closely observes operation for malfunctions of machines. May move machine controls and guides to adjust machine.

Inspects and measures machined workpieces to verify conformance to specifications, using instruments. May replace worn machine accessories, such as cutting tools or brushes. May file, sand, or shape machined parts, using handtools and power tools.

Maintains records of material output, machine operations, quantity processed, scrap rates. May utilize statistical process controls for reporting on production.

Confers with co-workers and department supervisors to determine production schedule as member of production team.

May clean machined parts, using degreasing tank or solvent and rags.

May assist others on the job as machine operation instructor.

WORKER TRAITS

GEDs
Reasoning..3
Math.......2
Language...3

DPTs
Data.......3
People.....6
Things.....2

SVP.... ...4

APTITUDES
G-Learn....3
V-Verbal...4
N-Numer....4
S-Spatial..3
P-Form.....3
Q-Clerical.4
K-Motor....3
F-Finger...3
M-Manual...3
E-Eye-Hand.5
C-Color....4

PHYSICAL
Strength.M
Climb....N
Balance..N
Stoop....O
Kneel....N
Crouch...N
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....O

Talk.....Y
Hear.....Y
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....O
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......4
Vibration...N
Atmosph.....N
Mech Parts..O
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....N
R-Repete....Y
I-Influence.N
V-Varied....N
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.N
J-Judge..Y

GOE..06

Sources of additional information related to this analysis include the following Occupational Titles:

MACHINE OPERATOR I	616.380-018
MACHINE OPERATOR II	619.685-062
CRIMPING MACHINE OPERATOR	616.682-022
GRINDING MACHINE OPERATOR	690.685-194
INJECTION MOLD MACHINE OPER.	556.382-146
WARPER	681.685-146

Occupation: Machine Operator

The highest rated worker tasks thought to be most impacted by the literacy of the worker include:

Reads and interprets work orders or follows oral instructions to ascertain procedures to be performed.

Sets up work station and starts machine, pushes buttons or switches or depresses foot pedal to engage feed, and closely observes operation for malfunctions of machines. May move machine controls and guides to adjust machine.

Maintains records of material output, machine operations, quantity processed, scrap rates. May utilize statistical process controls for reporting on production.

Confers with co-workers and department supervisors to determine production schedule as member of production team.

Occupation: Machine Operator

The following are factors identified by the various partner companies as return on investment measures which help identify worker performance.

Quantifiable production standards

- Units per hour
- Units per shift
- Units per department
- Product quality
- First pass yield
- Weekly production schedule
- Defects %
- Hours spent on re-work
- Reject rate
- Accuracy of paperwork (FDA Requirement)

Efficiency ratings

- Turn around time
- Work hours per operation
- Cost per operation
- Scrap rates
- Quality rate
- Through-put
- Set-up times
- Balanced work flow - assembly line attitudes

Worker attitudes

- Presenteeism
- Participation in programs
- Awards
- Suggestions, recommendations
- Positive attitude
- Safety record / OSHA recordables
- Operator/Machine Certifications
- Reliability
- Communication
- TEAMWORK

Occupation: Machine Operator

The following requirements represent the consensus of respondents:

WORKER REQUIREMENTS	Ver.	Ra.	Fu.
Reading			
1 follow uncomplicated instructions in oral or written form	Y	[✓ 1] 2 3	Y
2 follow detailed instructions in written, oral or diagrammatic form	Y	1 [✓ 2] 3	Y
3 read signs, labels, handbooks, forms	Y	[✓ 1] 2 3	Y
4 read memos, safety rules, instructions	Y	[✓ 1] 2 3	Y
5 read blueprints, schematics, diagrams	Y	1 [✓ 2] 3	Y
Writing			
6 write notes, memos, tags, labels	Y	1 [✓ 2] 3	Y
7 complete records, charts, tables	Y	1 [✓ 2] 3	Y
8 write letters, reports	N	1 2 3	N
Oral Communication			
9 speak and/or understand English	Y	[✓ 1] 2 3	Y
10 ask for assistance, more information	Y	1 [✓ 2] 3	Y
11 request materials, parts	Y	1 [✓ 2] 3	Y
12 participate in group discussions	Y	1 [✓ 2] 3	Y
13 communicate with customers	N	1 2 3	N
Problem Solving			
14 solve problems in standard situations	Y	1 [✓ 2] 3	Y
15 solve problems involving many variables	Y	1 [✓ 2] 3	Y
16 solve problems using broad interpretation	N	1 2 3	N
Performance			
17 operate more than one machine, tool	Y	[✓ 1] 2 3	Y
18 organize own work day/time	Y	1 [✓ 2] 3	Y
19 set up/adjust own equipment	Y	1 [✓ 2] 3	Y
20 assist and/or direct others on the job	Y	1 2 [✓ 3]	Y
21 remember information	Y	1 [✓ 2] 3	Y
22 work as a team member	Y	[✓ 1] 2 3	Y
Knowledge			
23 complete special training on the job	Y	[✓ 1] 2 3	Y
24 collect, analyze, or examine data	Y	1 2 [✓ 3]	Y
25 use of resource documentation	Y	1 [✓ 2] 3	Y
Numbers			
26 copy and/or compare numbers	Y	[✓ 1] 2 3	Y
27 use a calculator	Y	[✓ 1] 2 3	Y
28 calculate with fractions	Y	1 2 [✓ 3]	Y
Measurement			
29 measure with tapes, scales, gauges	Y	[✓ 1] 2 3	Y
30 convert units of measurement	Y	1 [✓ 2] 3	Y
31 read/interpret data from digital devices	Y	1 [✓ 2] 3	Y
Principles			
32 input/interpret computer data	Y	1 [✓ 2] 3	Y
33 interpret graphs or charts	Y	1 2 [✓ 3]	Y
34 record statistical information	Y	1 [✓ 2] 3	Y

Rating scale: 1 = Vital, 2 = Important, 3 = Needed

MACHINE OPERATOR

WORKER TASKS

Reads and interprets work orders or follows oral instructions to ascertain procedures to be performed.

Operates and tends one or more machine tools, special-purpose machines to process metal or plastic workpieces, fill material, manufacture components to specifications on production basis.

Lifts workpiece and/or material manually or using hoist to secure workpiece in fixture or loads automatic feeding device.

Sets up work station and starts machine, pushes buttons or switches or depresses foot pedal to engage feed, and closely observes operation for malfunctions of machines. May move machine controls and guides to adjust machine.

Inspects and measures machined workpieces to verify conformance to specifications, using instruments. May replace worn machine accessories, such as cutting tools or brushes. May file, sand, or shape machined parts, using handtools and power tools.

Maintains records of material output, machine operations, quantity processed, scrap rates. May utilize statistical process controls for reporting on production.

Confers with co-workers and department supervisors to determine production schedule as member of production team.

May clean machined parts, using degreasing tank or solvent and rags.

May assist others on the job as machine operation instructor.

MACHINE OPERATOR

WORKER TRAITS

GEDs
Reasoning..3
Math.......2
Language...3

DPTs
Data.......3
People.....6
Things.....2

SVP........4

APTITUDES
G-Learn....3
V-Verbal...4
N-Numer....4
S-Spatial..3
P-Form.....3
Q-Clerical.4
K-Motor....3
F-Finger...3
M-Manual...3
E-Eye-Hand.5
C-Color....4

PHYSICAL
Strength.M
Climb....N
Balance..N
Stoop....O
Kneel....N
Crouch...N
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....O

Talk.....Y
Hear.....Y
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....O
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......4
Vibration...N
Atmosph.....N
Mech Parts..O
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....N
R-Repete....Y
I-Influence.N
V-Varied....N
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.N
J-Judge..Y

GOE..06

Sources of additional information related to this analysis include the following Occupational Titles:

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INJECTION MOLD MACHINE OPER.	556.382-146
WARPER	681.685-146

JOB ANALYSIS INTERVIEW QUESTIONS - REASONING

Understanding instructions

Do you understand and carry out instructions:

in simple one and two step descriptions	[✓ Y]	N
in detailed, but uninvolved oral form	[✓ Y]	N
in detailed, but uninvolved written form	[✓ Y]	N
in detailed written or diagrammatic form	Y	[✓ N]
in accordance with a rational system	Y	[✓ N]
in a manner with limited standardization	Y	[✓ N]

Problem solving

Do you deal with problems involving:

standardized situations, no variables	[✓ Y]	N
standardized situations, few variables	[✓ Y]	N
standardized situations, many variables	Y	[✓ N]
few standards, variety of variables	Y	[✓ N]
interpretation of variety of instructions	Y	[✓ N]
interpretation of extensive instruction	Y	[✓ N]
logical, scientific thought	Y	[✓ N]
several abstract and concrete variables	Y	[✓ N]

Performance

Are you responsible for:

assisting, directing others on the job	[✓ Y]	N
operation of one or two similar machines	[✓ Y]	N
operation of several types of machines	Y	[✓ N]
organizing your own work time	[✓ Y]	N
setting up, adjusting your own equipment	[✓ Y]	N
performing a variety of duties	Y	[✓ N]
remembering information	[✓ Y]	N
working as a team member	[✓ Y]	N

Knowledge

Does you job require:

skills, ability in one area	[✓ Y]	N
skills, ability in a multiple areas	[✓ Y]	N
special training, specific preparation	[✓ Y]	N
collection, analysis, examination of data	Y	[✓ N]
use of resource documentation	Y	[✓ N]
use of special techniques, processes	Y	[✓ N]

MACHINE OPERATOR

JOB ANALYSIS INTERVIEW QUESTIONS - MATH

Numbers

Do you work with numbers:

in counting, copying, comparing	[✓ Y]	N
in addition, subtraction	[✓ Y]	N
in multiplication, division	[✓ Y]	N
in decimals, fractions	[✓ Y]	N
in computing ratio, rate, percent	Y	[✓ N]
in calculating surfaces, volumes	Y	[✓ N]
in calculating weights, measures	[✓ Y]	N
in calculating plane, solid figures	Y	[✓ N]
in graphs, charts, tables	[✓ Y]	N
in computer applications	[✓ Y]	N

Measurement instruments

Do you work with:

a calculator, ten-key adding machine	[✓ Y]	N
a ruler, yardstick, tape measure	[✓ Y]	N
a spring loaded or electronic scale	[✓ Y]	N
a compass, protractor	Y	[✓ N]
a dial-read or digital gauge, ammeter	Y	[✓ N]
a manual or digital caliper, micrometer	Y	[✓ N]
other measuring devices	Y	[✓ N]

Principles

Do you work with:

algebra, plane and solid geometry	Y	[✓ N]
shop math, mechanics, layout	Y	[✓ N]
conversion of units of measurement	Y	[✓ N]
linear-quadratic equations	Y	[✓ N]
statistical methods, analytical geometry	Y	[✓ N]
advanced calculus, modern algebra	Y	[✓ N]

Comments: STATISTICAL PROCESS CONTROLS

JOB ANALYSIS INTERVIEW QUESTIONS - LANGUAGE

Reading

Do you have to read and interpret:

signs, symbols, labels	[✓ Y]	N
employee handbooks, forms	[✓ Y]	N
letters, memos, policy procedures	[✓ Y]	N
safety rules for equipment use	[✓ Y]	N
written work instructions	[✓ Y]	N
parts lists, files, orders	[✓ Y]	N
schematics, blueprints, diagrams	[✓ Y]	N
charts, graphs, tables	[✓ Y]	N
gauges, dials, switches	[✓ Y]	N
illustrations, technical drawings	Y	[✓ N]
technical instruction manuals	[✓ Y]	N
contracts, reports	Y	[✓ N]

Writing

Do you have to write:

legibly in cursive style	Y	[✓ N]
part numbers on forms	[✓ Y]	N
notes, memos, "chits", tags	[✓ Y]	N
filling in charts, tables	[✓ Y]	N
completing records, files	[✓ Y]	N
to copy or record information	[✓ Y]	N
using a computer program	[✓ Y]	N
letters, reports	Y	[✓ N]

Oral Communication

Do you have to:

understand English	[✓ Y]	N
follow oral instructions	[✓ Y]	N
understand a group discussion	[✓ Y]	N
speak English	[✓ Y]	N
ask for clarification or more info	[✓ Y]	N
call for assistance, repair	[✓ Y]	N
request materials or parts	[✓ Y]	N
use a telephone	Y	[✓ N]
speak clearly and distinctly	[✓ Y]	N
speak using correct pronunciation	[✓ Y]	N
speak as a member in a group	[✓ Y]	N
talk with customers	Y	[✓ N]
instruct others	[✓ Y]	N
offer suggestions, recommendations	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - DEXTERITY

Motor coordination

On the job, are you required to:

work with your eyes and hands or fingers	[✓ Y]	N
make precise movements with speed	[✓ Y]	N
move hands, fingers accurately	[✓ Y]	N
align workpiece to be machined	[✓ Y]	N
adjusting presses, cutters, tools	[✓ Y]	N
calibrate equipment with testing devices	Y	[✓ N]

Finger dexterity

Does your job require you to:

manipulate small objects rapidly,accurately	[✓ Y]	N
work with small, precise hand tools	[✓ Y]	N
use a magnifying lens for precision work	[✓ Y]	N
grasp items with tweezers	[✓ Y]	N
remove parts from jigs, fixtures quickly	[✓ Y]	N
place labels, tags in precise location	[✓ Y]	N
position and move very small parts	Y	[✓ N]

Manual dexterity

Are you required to have the ability to:

work with your arms and hands	[✓ Y]	N
move hands easily and skillfully	[✓ Y]	N
use your hands in turning, placing motions	[✓ Y]	N
manipulate tools with one/both hands	[✓ Y]	N
use control switches, buttons, levers	[✓ Y]	N
build, set-up machines and equipment	[✓ Y]	N
use hands repetitively with moderate force	[✓ Y]	N

Comments:

JOB ANALYSIS INTERVIEW QUESTIONS - PERCEPTION SKILLS

Spatial

Does your job require the ability to:

think visually of geometric forms	Y	[✓ N]
to align parts in a single plane	[✓ Y]	N
position objects in relation to others	[✓ Y]	N
verify placement of components	[✓ Y]	N
determine size,type of parts from diagram	Y	[✓ N]
adjust mechanisms according to specs.	[✓ Y]	N
interpret blueprints, layout procedures	Y	[✓ N]

Form perception

Are you required to:

perceive detail in objects, graphs, pictures	[✓ Y]	N
make visual comparisons of items	[✓ Y]	N
shape, bend, form metal, wood, other material	[✓ Y]	N
detect flaws in materials by shape,alignment	[✓ Y]	N
examine material for burrs, excess metal	[✓ Y]	N
recognize components by size,shape,position	Y	[✓ N]

Clerical perception

Does your job require you to:

perceive detail in verbal or tabular material	Y	[✓ N]
identify, compare part numbers on work orders	Y	[✓ N]
put items in numeric or alpha order	Y	[✓ N]
observe gauges, dials for precise reading	[✓ Y]	N
record accurate logs, files, inventories	[✓ Y]	N
fill out requisitions for material	Y	[✓ N]
evaluate procedures with tables,charts,graphs	Y	[✓ N]
post data, edit or prepare reports	Y	[✓ N]

Color discrimination

Are you required to:

match,discriminate between colors from memory	[✓ Y]	N
compare batch samples to standards	Y	[✓ N]
sort by shades, hues, saturation	Y	[✓ N]
mix pigment, dyes, chemicals for correctness	Y	[✓ N]
detect differences in color of processed parts	[✓ Y]	N

Comments:______________________________

Industry Resource Corporation 1/95

OCCUPATIONAL OVERVIEW: MACHINIST

JOB SUMMARY

Sets up and operates conventional, special-purpose, and numerical controlled machines and machining centers to fabricate metallic and non-metallic parts. Applies knowledge of machine shop theory and procedures, machinability of materials and layout techniques.

REQUISITE QUALIFICATIONS

Knowledge: Competence in blueprint reading, geometric tolerances, reference points. Knowledge of inspection tools and materials.

Education: High School graduate or GED.

Experience: Previous work experience in machine shop.

Licensure/Certification: Machinist certificate is recommended.

Safety considerations: Participation in company safety procedures.

Production standards: Depend upon the operation being performed.

LITERACY DEMANDS

Reading, writing, speaking and listening in English to receive, understand and follow instructions on blueprints, travelers and from supervisors. Must be able to write notes, memos and perform record keeping on paper or using a computer program. Able to communicate in English with supervisors and co-workers to express own thoughts and to participate in group discussions and team meetings regarding schedules, workload, improvement, etc. Must be able to fully participate in training and special instructional programs. Able to work with numbers, geometric and dimensional math using calculators, measuring instruments and computers, if needed. Must understand and utilize statistical process controls for records and be able to interpret information.

OCCUPATIONAL TASKS

Sets up and operates conventional, special-purpose and numerical controlled machines and machining centers to fabricate metallic and nonmetallic parts, and fits and assembles machined parts into complete units, applying knowledge of machine shop theory and procedures, shop mathematics, machinability of materials, and layout techniques.

Studies blueprints, sketches, drawings, manuals, specifications, or sample part to determine dimensions and tolerances of finished workpiece, sequence of operations, and setup requirements.

Measures, marks, and scribes dimensions and reference points on material or workpiece as guides for subsequent machining.

Selects, aligns, and secures holding fixtures, cutting tools, attachments, accessories, and materials on machines. Calculates and sets controls to regulate machining factors, such as speed, feed, coolant flow, and depth and angle of cut, or enters commands to retrieve, input, or edit computerized machine control media.

Starts and observes machine operation to detect malfunctions or out-of-tolerance machining, and adjusts machine controls or control media as required.

Verifies conformance of finished workpiece to specifications, using precision measuring instruments. Verifies dimensions and alignment of assembly, using measuring instruments.

Performs work as a member of a team, conferring with department supervisors, leads and co-workers on production scheduling, overall shop performance.

May assist and/or train other workers in the Machine Shop to learn operations of equipment, machines and tooling.

WORKER TRAITS

GEDs
Reasoning..4
Math.......4
Language...4

DPTs
Data.......2
People.....8
Things.....0

SVP........7

APTITUDES
G-Learn....2
V-Verbal...3
N-Numer....3
S-Spatial..2
P-Form.....2
Q-Clerical.4
K-Motor....3
F-Finger...2
M-Manual...2
E-Eye-Hand.5
C-Color....4

PHYSICAL
Strength.M
Climb....N
Balance..N
Stoop....O
Kneel....O
Crouch...O
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....O

Talk.....O
Hear.....O
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....F
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......4
Vibration...N
Atmosph.....O
Mech Parts..F
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS
D-Direct....N
R-Repete....N
I-Influence.N
V-Varied....Y
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.N
J-Judge..Y

GOE...06

Sources of additional information related to this analysis include the following occupational titles:

MACHINIST	600.280-022
TOOL PROGRAMMER	007.167-018
TOOL MACHINE SET-UP OPERATOR	601.280-054
TOOL AND DIE MAKER	601.260-010

Occupation: **Machinist**

The three highest rated worker tasks thought to be most impacted by the literacy of the worker include:

Studies blueprints, sketches, drawings, manuals, specifications, or sample part to determine dimensions and tolerances of finished workpiece, sequence of operations, and setup requirements.

Verifies conformance of finished workpiece to specifications, using precision measuring instruments. Verifies dimensions and alignment of assembly, using measuring instruments.

Performs work as a member of a team, conferring with department supervisors, leads and co-workers on production scheduling, overall shop performance.

Occupation: Machinist

The following are factors identified by the various partner companies as return on investment measures which help identify worker performance.

Quantifiable production standards

- Units per hour
- Units per shift
- Units per department
- Defects %
- First article yield
- Projects completed in a timely manner

Efficiency ratings

- Actual labor vs. standard labor
- Turn around time
- Work hours per operation
- Cost per operation
- Scrap rates
- Maintaining production schedule
- Daily through-put
- Quality

Worker attitudes

- Presenteeism
- Participation in programs
- Process improvement suggestions, recommendations
- Positive attitude
- Reliability
- Communication

Occupation: Machinist

The following requirements represent the consensus of respondents:

WORKER REQUIREMENTS	Ver.	Ra.	Fu.
Reading			
1 follow uncomplicated instructions in oral or written form	Y	[✓ 1] 2 3	Y
2 follow detailed instructions in written, oral or diagrammatic form	Y	[✓ 1] 2 3	Y
3 read signs, labels, handbooks, forms	Y	[✓ 1] 2 3	Y
4 read memos, safety rules, instructions	Y	[✓ 1] 2 3	Y
5 read blueprints, schematics, diagrams	Y	[✓ 1] 2 3	Y
Writing			
6 write notes, memos, tags, labels	Y	1 [✓ 2] 3	Y
7 complete records, charts, tables	Y	1 [✓ 2] 3	Y
8 write letters, reports	N	1 2 3	N
Oral Communication			
9 speak and/or understand English	Y	[✓ 1] 2 3	Y
10 ask for assistance, more information	Y	[✓ 1] 2 3	Y
11 request materials, parts	Y	[✓ 1] 2 3	Y
12 participate in group discussions	Y	1 [✓ 2] 3	Y
13 communicate with customers	N	1 2 3	[✓ N]
Problem Solving			
14 solve problems in standard situations	Y	[✓ 1] 2 3	Y
15 solve problems involving many variables	Y	1 [✓ 2] 3	Y
16 solve problems using broad interpretation	N	1 2 3	N
Performance			
17 operate more than one machine, tool	Y	[✓ 1] 2 3	Y
18 organize own work day/time	N	1 2 3	[✓ Y]
19 set up/adjust own equipment	Y	[✓ 1] 2 3	Y
20 assist and/or direct others on the job	Y	1 [✓ 2] 3	Y
21 remember information	Y	1 [✓ 2] 3	Y
22 work as a team member	Y	1 2 3	Y
Knowledge			
23 complete special training on the job	Y	1 [✓ 2] 3	Y
24 collect, analyze, or examine data	Y	1 [✓ 2] 3	Y
25 use of resource documentation	Y	1 [✓ 2] 3	Y
Numbers			
26 copy and/or compare numbers	Y	[✓ 1] 2 3	Y
27 use a calculator	Y	[✓ 1] 2 3	Y
28 calculate with fractions	Y	[✓ 1] 2 3	Y
Measurement			
29 measure with tapes, scales, gauges	Y	[✓ 1] 2 3	Y
30 convert units of measurement	Y	[✓ 1] 2 3	Y
31 read/interpret data from digital devices	Y	[✓ 1] 2 3	Y
Principles			
32 input/interpret computer data	N	1 2 3	[✓ Y]
33 interpret graphs or charts	N	1 2 3	[✓ Y]
34 record statistical information	Y	[✓ 1] 2 3	Y

Rating scale: 1 = Vital, 2 = Important, 3 = Needed

MACHINIST

WORKER TASKS

Sets up and operates conventional, special-purpose and numerical controlled machines and machining centers to fabricate metallic and nonmetallic parts, and fits and assembles machined parts into complete units, applying knowledge of machine shop theory and procedures, shop mathematics, machinability of materials, and layout techniques.

Studies blueprints, sketches, drawings, manuals, specifications, or sample part to determine dimensions and tolerances of finished workpiece, sequence of operations, and setup requirements.

Measures, marks, and scribes dimensions and reference points on material or workpiece as guides for subsequent machining.

Selects, aligns, and secures holding fixtures, cutting tools, attachments, accessories, and materials on machines. Calculates and sets controls to regulate machining factors, such as speed, feed, coolant flow, and depth and angle of cut, or enters commands to retrieve, input, or edit computerized machine control media.

Starts and observes machine operation to detect malfunctions or out-of-tolerance machining, and adjusts machine controls or control media as required.

Verifies conformance of finished workpiece to specifications, using precision measuring instruments. Verifies dimensions and alignment of assembly, using measuring instruments.

Performs work as a member of a team, conferring with department supervisors, leads and co-workers on production scheduling, overall shop performance.

May assist and/or train other workers in the Machine Shop to learn operations of equipment, machines and tooling.

MACHINIST

WORKER TRAITS

GEDs
Reasoning..4
Math.......4
Language...4

DPTs
Data.......2
People.....8
Things.....0

SVP........7

APTITUDES
G-Learn....2
V-Verbal...3
N-Numer....3
S-Spatial..2
P-Form.....2
Q-Clerical.4
K-Motor....3
F-Finger...2
M-Manual...2
E-Eye-Hand.5
C-Color....4

PHYSICAL
Strength.M
Climb....N
Balance..N
Stoop....O
Kneel....O
Crouch...O
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....O

Talk.....O
Hear.....O
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....F
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......4
Vibration...N
Atmosph.....O
Mech Parts..F
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....N
R-Repete....N
I-Influence.N
V-Varied....Y
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.N
J-Judge..Y

GOE...06

Sources of additional information related to this analysis include the following occupational titles:

MACHINIST	600.280-022
TOOL PROGRAMMER	007.167-018
TOOL MACHINE SET-UP OPERATOR	601.280-054
TOOL AND DIE MAKER	601.260-010

JOB ANALYSIS INTERVIEW QUESTIONS - REASONING

Understanding instructions

Do you understand and carry out instructions:

in simple one and two step descriptions	[✓ Y]	N
in detailed, but uninvolved oral form	[✓ Y]	N
in detailed, but uninvolved written form	[✓ Y]	N
in detailed written or diagrammatic form	[✓ Y]	N
in accordance with a rational system	[✓ Y]	N
in a manner with limited standardization	[✓ Y]	N

Problem solving

Do you deal with problems involving:

standardized situations, no variables	[✓ Y]	N
standardized situations, few variables	[✓ Y]	N
standardized situations, many variables	[✓ Y]	N
few standards, variety of variables	[✓ Y]	N
interpretation of variety of instructions	[✓ Y]	N
interpretation of extensive instruction	Y	[✓ N]
logical, scientific thought	[✓ Y]	N
several abstract and concrete variables	Y	[✓ N]

Performance

Are you responsible for:

assisting, directing others on the job	[✓ Y]	N
operation of one or two similar machines	[✓ Y]	N
operation of several types of machines	[✓ Y]	N
organizing your own work time	[✓ Y]	N
setting up, adjusting your own equipment	[✓ Y]	N
performing a variety of duties	[✓ Y]	N
remembering information	[✓ Y]	N
working as a team member	[✓ Y]	N

Knowledge

Does you job require:

skills, ability in one area	[✓ Y]	N
skills, ability in a multiple areas	[✓ Y]	N
special training, specific preparation	[✓ Y]	N
collection, analysis, examination of data	[✓ Y]	N
use of resource documentation	[✓ Y]	N
use of special techniques, processes	[✓ Y]	N

Occupation: Test Technician

The following are factors identified by the various partner companies as return on investment measures which help identify worker performance.

Quantifiable production standards

- Units per hour
- Units per shift
- Units per department
- Product quality/quantity

Efficiency ratings

- Turn around time
- Work hours per operation
- Cost per operation
- Scrap rates
- Quality rates of 95% to 100%
- Reliable product
- Cycle time

Worker attitudes

- Presenteeism
- Participation in programs
- Awards
- Suggestions, recommendations
- TEAMWORK

Occupation: Test Technician

The following requirements represent the consensus of respondents:

WORKER REQUIREMENTS	Ver.	Ra.	Fu.
Reading			
1 follow uncomplicated instructions in oral or written form	Y	[✓ 1] 2 3	Y
2 follow detailed instructions in written, oral or diagrammatic form	Y	1 [✓ 2] 3	Y
3 read signs, labels, handbooks, forms	Y	[✓ 1] 2 3	Y
4 read memos, safety rules, instructions	Y	1 [✓ 2] 3	Y
5 read blueprints, schematics, diagrams	Y	[✓ 1] 2 3	Y
Writing			
6 write notes, memos, tags, labels	Y	1 [✓ 2] 3	Y
7 complete records, charts, tables	Y	1 [✓ 2] 3	Y
8 write letters, reports	Y	1 [✓ 2] 3	Y
Oral Communication			
9 speak and/or understand English	Y	[✓ 1] 2 3	Y
10 ask for assistance, more information	Y	[✓ 1] 2 3	Y
11 request materials, parts	Y	1 [✓ 2] 3	Y
12 participate in group discussions	Y	1 [✓ 2] 3	Y
13 communicate with customers	Y	1 [✓ 2] 3	Y
Problem Solving			
14 solve problems in standard situations	Y	[✓ 1] 2 3	Y
15 solve problems involving many variables	Y	1 [✓ 2] 3	Y
16 solve problems using broad interpretation	Y	1 [✓ 2] 3	Y
Performance			
17 operate more than one machine, tool	Y	[✓ 1] 2 3	Y
18 organize own work day/time	Y	1 [✓ 2] 3	Y
19 set up/adjust own equipment	Y	[✓ 1] 2 3	Y
20 assist and/or direct others on the job	Y	1 [✓ 2] 3	Y
21 remember information	Y	1 [✓ 2] 3	Y
22 work as a team member	Y	[✓ 1] 2 3	Y
Knowledge			
23 complete special training on the job	Y	1 [✓ 2] 3	Y
24 collect, analyze, or examine data	Y	1 [✓ 2] 3	Y
25 use of resource documentation	Y	1 [✓ 2] 3	Y
Numbers			
26 copy and/or compare numbers	Y	1 [✓ 2] 3	Y
27 use a calculator	Y	1 [✓ 2] 3	Y
28 calculate with fractions	Y	1 [✓ 2] 3	Y
Measurement			
29 measure with tapes, scales, gauges	Y	1 [✓ 2] 3	Y
30 convert units of measurement	Y	1 [✓ 2] 3	Y
31 read/interpret data from digital devices	Y	[✓ 1] 2 3	Y
Principles			
32 input/interpret computer data	Y	1 [✓ 2] 3	Y
33 interpret graphs or charts	Y	1 [✓ 2] 3	Y
34 record statistical information	Y	1 [✓ 2] 3	Y

Rating scale: 1 = Vital, 2 = Important, 3 = Needed

. JOB ANALYSIS INTERVIEW QUESTIONS - MATH

Numbers

Do you work with numbers:

in counting, copying, comparing	[✓ Y]	N
in addition, subtraction	[✓ Y]	N
in multiplication, division	[✓ Y]	N
in decimals, fractions	[✓ Y]	N
in computing ratio, rate, percent	[✓ Y]	N
in calculating surfaces, volumes	[✓ Y]	N
in calculating weights, measures	[✓ Y]	N
in calculating plane, solid figures	[✓ Y]	N
in graphs, charts, tables	[✓ Y]	N
in computer applications	[✓ Y]	N

Measurement instruments

Do you work with:

a calculator, ten-key adding machine	[✓ Y]	N
a ruler, yardstick, tape measure	[✓ Y]	N
a spring loaded or electronic scale	[✓ Y]	N
a compass, protractor	[✓ Y]	N
a dial-read or digital gauge, ammeter	[✓ Y]	N
a manual or digital caliper, micrometer	[✓ Y]	N
other measuring devices	[✓ Y]	N

Principles

Do you work with:

algebra, plane and solid geometry	[✓ Y]	N
shop math, mechanics, layout	[✓ Y]	N
conversion of units of measurement	[✓ Y]	N
linear-quadratic equations	[✓ Y]	N
statistical methods, analytical geometry	[✓ Y]	N
advanced calculus, modern algebra	Y	[✓ N]

Comments:

JOB ANALYSIS INTERVIEW QUESTIONS - LANGUAGE

Reading

Do you have to read and interpret:

signs, symbols, labels	[✓ Y]	N
employee handbooks, forms	[✓ Y]	N
letters, memos, policy procedures	[✓ Y]	N
safety rules for equipment use	[✓ Y]	N
written work instructions	[✓ Y]	N
parts lists, files, orders	[✓ Y]	N
schematics, blueprints, diagrams	[✓ Y]	N
charts, graphs, tables	[✓ Y]	N
gauges, dials, switches	[✓ Y]	N
illustrations, technical drawings	[✓ Y]	N
technical instruction manuals	[✓ Y]	N
contracts, reports	Y	[✓ N]

Writing

Do you have to write:

legibly in cursive style	Y	[✓ N]
part numbers on forms	[✓ Y]	N
notes, memos, "chits", tags	[✓ Y]	N
filling in charts, tables	[✓ Y]	N
completing records, files	[✓ Y]	N
to copy or record information	[✓ Y]	N
using a computer program	Y	[✓ N]
letters, reports	Y	[✓ N]

Oral Communication

Do you have to:

understand English	[✓ Y]	N
follow oral instructions	[✓ Y]	N
understand a group discussion	[✓ Y]	N
speak English	[✓ Y]	N
ask for clarification or more info	[✓ Y]	N
call for assistance, repair	[✓ Y]	N
request materials or parts	[✓ Y]	N
use a telephone	[✓ Y]	N
speak clearly and distinctly	[✓ Y]	N
speak using correct pronunciation	[✓ Y]	N
speak as a member in a group	[✓ Y]	N
talk with customers	[✓ Y]	N
instruct others	[✓ Y]	N
offer suggestions, recommendations	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - PERCEPTION SKILLS

Spatial

Does your job require the ability to:

think visually of geometric forms	[✓ Y]	N
to align parts in a single plane	[✓ Y]	N
position objects in relation to others	[✓ Y]	N
verify placement of components	[✓ Y]	N
determine size,type of parts from diagram	[✓ Y]	N
adjust mechanisms according to specs.	[✓ Y]	N
interpret blueprints, layout procedures	[✓ Y]	N

Form perception

Are you required to:

perceive detail in objects, graphs, pictures	[✓ Y]	N
make visual comparisons of items	[✓ Y]	N
shape, bend, form metal, wood, other material	[✓ Y]	N
detect flaws in materials by shape,alignment	[✓ Y]	N
examine material for burrs, excess metal	[✓ Y]	N
recognize components by size,shape,position	[✓ Y]	N

Clerical perception

Does your job require you to:

perceive detail in verbal or tabular material	[✓ Y]	N
identify, compare part numbers on work orders	[✓ Y]	N
put items in numeric or alpha order	[✓ Y]	N
observe gauges, dials for precise reading	[✓ Y]	N
record accurate logs, files, inventories	[✓ Y]	N
fill out requisitions for material	[✓ Y]	N
evaluate procedures with tables,charts,graphs	[✓ Y]	N
post data, edit or prepare reports	[✓ Y]	N

Color discrimination

Are you required to:

match,discriminate between colors from memory	[✓ Y]	N
compare batch samples to standards	Y	[✓ N]
sort by shades, hues, saturation	Y	[✓ N]
mix pigment, dyes, chemicals for correctness	Y	[✓ N]
detect differences in color of processed parts	[✓ Y]	N

Comments:____

JOB ANALYSIS INTERVIEW QUESTIONS - DEXTERITY

Motor coordination

On the job, are you required to:

work with your eyes and hands or fingers	[✓ Y]	N
make precise movements with speed	Y	[✓ N]
move hands, fingers accurately	[✓ Y]	N
align workpiece to be machined	[✓ Y]	N
adjusting presses, cutters, tools	[✓ Y]	N
calibrate equipment with testing devices	[✓ Y]	N

Finger dexterity

Does your job require you to:

manipulate small objects rapidly, accurately	Y	[✓ N]
work with small, precise hand tools	[✓ Y]	N
use a magnifying lens for precision work	[✓ Y]	N
grasp items with tweezers	[✓ Y]	N
remove parts from jigs, fixtures quickly	[✓ Y]	N
place labels, tags in precise location	[✓ Y]	N
position and move very small parts	[✓ Y]	N

Manual dexterity

Are you required to have the ability to:

work with your arms and hands	[✓ Y]	N
move hands easily and skillfully	[✓ Y]	N
use your hands in turning, placing motions	[✓ Y]	N
manipulate tools with one/both hands	[✓ Y]	N
use control switches, buttons, levers	[✓ Y]	N
build, set-up machines and equipment	[✓ Y]	N
use hands repetitively with moderate force	[✓ Y]	N

Comments:

Industry Resource Corporation 1/95

OCCUPATION OVERVIEW: SUPERVISOR/LEAD

JOB SUMMARY

Supervises and coordinates activities of workers engaged in one or more occupations: Studies production schedules and estimates worker-hour requirements for completion of job assignment. Interprets company policies to workers and enforces safety regulations. Recommends measures to improve production methods, equipment performance, and quality of product. Suggest changes in working conditions and use of equipment to increase efficiency of department or work team. Analyzes and resolves work problems, or assists workers in solving problems. Recommends or initiates personnel actions.

REQUISITE QUALIFICATIONS

Knowledge: Understand the processes and procedures of supervised employees, Specific knowledge is dependent upon the craft of workers supervised, product manufactured, and process involved. Good communication and people skills. Judgment and decision making skills are necessary.

Education: High School graduate or GED.

Experience: Previous experience in work process or related lead or supervisory experience.

Licensure/Certification: In-house certification programs for specific industry knowledge area.

Safety considerations: Complies with all safety requirements and instructs workers in all safety procedures.

Production standards: Daily assignments and area performance.

LITERACY DEMANDS

Reading, writing, speaking and listening in English to receive, understand and follow, as well as, provide instructions. Able to create notes, memos, charts, records, schedules, reports and letters, sometimes utilizing a computer program. Able to read technical equipment manuals. Able to communicate in English with supervisors, co-leads and supervised workers to facilitate and/or participate in group/team meetings to recommend changes in methods, assign work schedules, and improve performance. Able to communicate with customers either on the telephone or in person. Able to take part in and/or provide periodic training programs required by the occupation or the occupations of those supervised. Able to analyze report information and statistical data on job performance.

OCCUPATIONAL TASKS

Supervises and coordinates activities of workers engaged in one or more occupations. Observes workers performing duties, reviews production reports, and confers with quality control personnel to evaluate work performance.

Studies production schedules and estimates worker-hour requirements for completion of job assignment. Conducts periodic inventories, and directs preparation of purchase orders according to company policy.

Interprets company policies to workers and enforces safety regulations.

Interprets specifications, blueprints, and job orders to workers, and assigns duties.

Establishes or adjusts work procedures to meet production schedules, using knowledge of capacities of machines and equipment.

Recommends measures to improve production methods, equipment performance, and quality of product, and suggests changes in working conditions and use of equipment to increase efficiency of shop, department, or work crew.

Analyzes and resolves work problems, or assists workers in solving work problems. Initiates or suggests plans to motivate workers to achieve work goals.
Recommends or initiates personnel actions, such as promotions, transfers, discharges, and disciplinary measures.

Maintains time and production records.

Explains and demonstrates machine setup and inspection procedures to new workers. May assign experienced workers to assist in training new workers. May set up machines and equipment. May estimate, requisition, and inspect materials.

Confers with members of management staff to arrange for assignment of workers required to meet production demands. May confer with other SUPERVISORS to coordinate activities of individual departments. May confer with workers' representatives to resolve grievances.

When supervising workers engaged chiefly in one occupation or craft, is required to be adept in the activities of the workers supervised. When supervising workers engaged in several occupations, is required to possess general knowledge of the activities involved.

WORKER TRAITS

GEDs
Reasoning..4
Math.......3
Language...3

DPTs
Data.......1
People.....3
Things.....0

SVP........7

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..3
P-Form.....3
Q-Clerical.3
K-Motor....3
F-Finger...3
M-Manual...3
E-Eye-Hand.5
C-Color....5

PHYSICAL
Strength.M
Climb....N
Balance..N
Stoop....O
Kneel....N
Crouch...O
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....F
Hear.....F
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....O
Accom....O
Color V..N
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......3
Vibration...N
Atmosph.....N
Mech Parts..N
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....Y
R-Repete....N
I-Influence.N
V-Varied....N
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.Y
J-Judge..Y

GOE...06

Sources for additional information related to this analysis include the occupational titles:

SUPERVISOR, ELECTRICAL ASSEMBLIES	826.131-014
SUPERVISOR, ELECTRONICS PROCESSING	590.130-010

Occupation: Supervisor/Lead

The three highest rated worker tasks thought to be most impacted by the literacy of the worker include:

> Recommends measures to improve production methods, equipment performance, and quality of product, and suggests changes in working conditions and use of equipment to increase efficiency of shop, department, or work crew.
>
> Studies production schedules and estimates worker-hour requirements for completion of job assignment. Conducts periodic inventories, and directs preparation of purchase orders according to company policy.
>
> Establishes or adjusts work procedures to meet production schedules, using knowledge of capacities of machines and equipment. Maintains time and production records.

Additional tasks did receive attention from the SMEs, yet not at the level of these three tasks.

Occupation: Supervisor/Lead

The following are factors identified by the various partner companies as return on investment measures which help identify worker performance.

Quantifiable production standards

- Units per hour
- Units per shift
- Units per department
- Focused incentives
- Productivity factors: % change in production, operating expense over several time periods
- Schedule attainment
- Backorder rate
- Projects completed in timely manner
- Supervisory skills
- Training

Efficiency ratings

- Turn around time
- Work hours per operation
- Cost per operation
- Scrap rates
- Quality rates of 95% to 100%
- Machine repair, down-time
- Accuracy of paperwork
- Workmanship nonconforming materials
- Set-up time
- Inventory accuracy

Worker attitudes

- Presenteeism
- Participation in programs
- Awards
- Suggestions, recommendations
- Fully cross-trained workforce
- Opinion surveys
- Quick start meetings/crew meetings
- OSHA recordable incidents
- Self motivated
- Communication
- TEAMWORK

Occupation: Supervisor/Lead

The following requirements represent the consensus of respondents:

WORKER REQUIREMENTS	Ver.	Ra.	Fu.
Reading			
1 follow uncomplicated instructions in oral or written form	Y	[✓ 1] 2 3	Y
2 follow detailed instructions in written, oral or diagrammatic form	Y	[✓ 1] 2 3	Y
3 read signs, labels, handbooks, forms	Y	[✓ 1] 2 3	Y
4 read memos, safety rules, instructions	Y	[✓ 1] 2 3	Y
5 read blueprints, schematics, diagrams	Y	1 [✓ 2] 3	Y
Writing			
6 write notes, memos, tags, labels	Y	1 [✓ 2] 3	Y
7 complete records, charts, tables	Y	1 [✓ 2] 3	Y
8 write letters, reports	Y	1 [✓ 2] 3	Y
Oral Communication			
9 speak and/or understand English	Y	[✓ 1] 2 3	Y
10 ask for assistance, more information	Y	[✓ 1] 2 3	Y
11 request materials, parts	Y	[✓ 1] 2 3	Y
12 participate in group discussions	Y	1 [✓ 2] 3	Y
13 communicate with customers	Y	1 [✓ 2] 3	Y
Problem Solving			
14 solve problems in standard situations	Y	[✓ 1] 2 3	Y
15 solve problems involving many variables	Y	1 [✓ 2] 3	Y
16 solve problems using broad interpretation	Y	1 [✓ 2] 3	Y
Performance			
17 operate more than one machine, tool	Y	1 [✓ 2] 3	Y
18 organize own work day/time	Y	[✓ 1] 2 3	Y
19 set up/adjust own equipment	Y	1 [✓ 2] 3	Y
20 assist and/or direct others on the job	Y	[✓ 1] 2 3	Y
21 remember information	Y	1 [✓ 2] 3	Y
22 work as a team member	Y	[✓ 1] 2 3	Y
Knowledge			
23 complete special training on the job	Y	1 [✓ 2] 3	Y
24 collect, analyze, or examine data	Y	1 [✓ 2] 3	Y
25 use of resource documentation	Y	1 [✓ 2] 3	Y
Numbers			
26 copy and/or compare numbers	Y	1 [✓ 2] 3	Y
27 use a calculator	Y	1 [✓ 2] 3	Y
28 calculate with fractions	Y	1 [✓ 2] 3	Y
Measurement			
29 measure with tapes, scales, gauges	Y	1 [✓ 2] 3	Y
30 convert units of measurement	Y	1 2 [✓ 3]	Y
31 read/interpret data from digital devices	Y	1 [✓ 2] 3	Y
Principles			
32 input/interpret computer data	Y	1 [✓ 2] 3	Y
33 interpret graphs or charts	Y	1 [✓ 2] 3	Y
34 record statistical information	Y	1 [✓ 2] 3	Y

Rating scale: 1 = Vital, 2 = Important, 3 = Needed

SUPERVISOR / LEAD PERSONNEL

WORKER TASKS

Supervises and coordinates activities of workers engaged in one or more occupations. Observes workers performing duties, reviews production reports, and confers with quality control personnel to evaluate work performance.

Studies production schedules and estimates worker-hour requirements for completion of job assignment. Conducts periodic inventories, and directs preparation of purchase orders according to company policy.

Interprets company policies to workers and enforces safety regulations.

Interprets specifications, blueprints, and job orders to workers, and assigns duties.

Establishes or adjusts work procedures to meet production schedules, using knowledge of capacities of machines and equipment.

Recommends measures to improve production methods, equipment performance, and quality of product, and suggests changes in working conditions and use of equipment to increase efficiency of shop, department, or work crew.

Analyzes and resolves work problems, or assists workers in solving work problems. Initiates or suggests plans to motivate workers to achieve work goals.
Recommends or initiates personnel actions, such as promotions, transfers, discharges, and disciplinary measures.

Maintains time and production records.

Explains and demonstrates machine setup and inspection procedures to new workers. May assign experienced workers to assist in training new workers. May set up machines and equipment. May estimate, requisition, and inspect materials.

Confers with members of management staff to arrange for assignment of workers required to meet production demands. May confer with other SUPERVISORS to coordinate activities of individual departments. May confer with workers' representatives to resolve grievances.

When supervising workers engaged chiefly in one occupation or craft, is required to be adept in the activities of the workers supervised. When supervising workers engaged in several occupations, is required to possess general knowledge of the activities involved.

SUPERVISOR / LEAD PERSONNEL

WORKER TRAITS

GEDs
Reasoning..4
Math.......3
Language...3

DPTs
Data.......1
People.....3
Things.....0

SVP........7

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..3
P-Form.....3
Q-Clerical.3
K-Motor....3
F-Finger...3
M-Manual...3
E-Eye-Hand.5
C-Color....5

PHYSICAL
Strength.M
Climb....N
Balance..N
Stoop....O
Kneel....N
Crouch...O
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....F
Hear.....F
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....O
Accom....O
Color V..N
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......3
Vibration...N
Atmosph.....N
Mech Parts..N
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....Y
R-Repete....N
I-Influence.N
V-Varied....N
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.Y
J-Judge..Y

GOE...06

Sources for additional information related to this analysis include the occupational titles:

SUPERVISOR, ELECTRICAL ASSEMBLIES	826.131-014
SUPERVISOR, ELECTRONICS PROCESSING	590.130-010

JOB ANALYSIS INTERVIEW QUESTIONS - REASONING

Understanding instructions

Do you understand and carry out instructions:

in simple one and two step descriptions	[✓ Y]	N
in detailed, but uninvolved oral form	[✓ Y]	N
in detailed, but uninvolved written form	[✓ Y]	N
in detailed written or diagrammatic form	[✓ Y]	N
in accordance with a rational system	[✓ Y]	N
in a manner with limited standardization	[✓ Y]	N

Problem solving

Do you deal with problems involving:

standardized situations, no variables	[✓ Y]	N
standardized situations, few variables	[✓ Y]	N
standardized situations, many variables	[✓ Y]	N
few standards, variety of variables	[✓ Y]	N
interpretation of variety of instructions	[✓ Y]	N
interpretation of extensive instruction	[✓ Y]	N
logical, scientific thought	[✓ Y]	N
several abstract and concrete variables	[✓ Y]	N

Performance

Are you responsible for:

assisting, directing others on the job	[✓ Y]	N
operation of one or two similar machines	[✓ Y]	N
operation of several types of machines	[✓ Y]	N
organizing your own work time	[✓ Y]	N
setting up, adjusting your own equipment	[✓ Y]	N
performing a variety of duties	[✓ Y]	N
remembering information	[✓ Y]	N
working as a team member	[✓ Y]	N

Knowledge

Does you job require:

skills, ability in one area	[✓ Y]	N
skills, ability in a multiple areas	[✓ Y]	N
special training, specific preparation	[✓ Y]	N
collection, analysis, examination of data	[✓ Y]	N
use of resource documentation	[✓ Y]	N
use of special techniques, processes	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - MATH

Numbers

Do you work with numbers:

in counting, copying, comparing	[✓ Y]	N
in addition, subtraction	[✓ Y]	N
in multiplication, division	[✓ Y]	N
in decimals, fractions	[✓ Y]	N
in computing ratio, rate, percent	[✓ Y]	N
in calculating surfaces, volumes	[✓ Y]	N
in calculating weights, measures	[✓ Y]	N
in calculating plane, solid figures	Y	[✓ N]
in graphs, charts, tables	[✓ Y]	N
in computer applications	[✓ Y]	N

Measurement instruments

Do you work with:

a calculator, ten-key adding machine	[✓ Y]	N
a ruler, yardstick, tape measure	[✓ Y]	N
a spring loaded or electronic scale	[✓ Y]	N
a compass, protractor	Y	[✓ N]
a dial-read or digital gauge, ammeter	[✓ Y]	N
a manual or digital caliper, micrometer	[✓ Y]	N
other measuring devices	[✓ Y]	N

Principles

Do you work with:

algebra, plane and solid geometry	[✓ Y]	N
shop math, mechanics, layout	[✓ Y]	N
conversion of units of measurement	[✓ Y]	N
linear-quadratic equations	Y	[✓ N]
statistical methods, analytical geometry	[✓ Y]	N
advanced calculus, modern algebra	Y	[✓ N]

Comments: ____________________

JOB ANALYSIS INTERVIEW QUESTIONS - LANGUAGE

Reading

Do you have to read and interpret:

signs, symbols, labels	[✓ Y]	N
employee handbooks, forms	[✓ Y]	N
letters, memos, policy procedures	[✓ Y]	N
safety rules for equipment use	[✓ Y]	N
written work instructions	[✓ Y]	N
parts lists, files, orders	[✓ Y]	N
schematics, blueprints, diagrams	[✓ Y]	N
charts, graphs, tables	[✓ Y]	N
gauges, dials, switches	[✓ Y]	N
illustrations, technical drawings	[✓ Y]	N
technical instruction manuals	[✓ Y]	N
contracts, reports	[✓ Y]	N

Writing

Do you have to write:

legibly in cursive style	[✓ Y]	N
part numbers on forms	[✓ Y]	N
notes, memos, "chits", tags	[✓ Y]	N
filling in charts, tables	[✓ Y]	N
completing records, files	[✓ Y]	N
to copy or record information	[✓ Y]	N
using a computer program	[✓ Y]	N
letters, reports	[✓ Y]	N

Oral Communication

Do you have to:

understand English	[✓ Y]	N
follow oral instructions	[✓ Y]	N
understand a group discussion	[✓ Y]	N
speak English	[✓ Y]	N
ask for clarification or more info	[✓ Y]	N
call for assistance, repair	[✓ Y]	N
request materials or parts	[✓ Y]	N
use a telephone	[✓ Y]	N
speak clearly and distinctly	[✓ Y]	N
speak using correct pronunciation	[✓ Y]	N
speak as a member in a group	[✓ Y]	N
talk with customers	[✓ Y]	N
instruct others	[✓ Y]	N
offer suggestions, recommendations	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - DEXTERITY

Motor coordination

On the job, are you required to:

work with your eyes and hands or fingers	[✓ Y]	N
make precise movements with speed	[✓ Y]	N
move hands, fingers accurately	[✓ Y]	N
align workpiece to be machined	[✓ Y]	N
adjusting presses, cutters, tools	[✓ Y]	N
calibrate equipment with testing devices	Y	[✓ N]

Finger dexterity

Does your job require you to:

manipulate small objects rapidly,accurately	[✓ Y]	N
work with small, precise hand tools	[✓ Y]	N
use a magnifying lens for precision work	Y	[✓ N]
grasp items with tweezers	[✓ Y]	N
remove parts from jigs, fixtures quickly	Y	[✓ N]
place labels, tags in precise location	Y	[✓ N]
position and move very small parts	Y	[✓ N]

Manual dexterity

Are you required to have the ability to:

work with your arms and hands	[✓ Y]	N
move hands easily and skillfully	[✓ Y]	N
use your hands in turning, placing motions	[✓ Y]	N
manipulate tools with one/both hands	[✓ Y]	N
use control switches, buttons, levers	[✓ Y]	N
build, set-up machines and equipment	[✓ Y]	N
use hands repetitively with moderate force	Y	[✓ N]

Comments:______________________________

JOB ANALYSIS INTERVIEW QUESTIONS - PERCEPTION SKILLS

Spatial

Does your job require the ability to:

think visually of geometric forms [✓ Y] N
to align parts in a single plane Y [✓ N]
position objects in relation to others [✓ Y] N
verify placement of components [✓ Y] N
determine size,type of parts from diagram [✓ Y] N
adjust mechanisms according to specs. [✓ Y] N
interpret blueprints, layout procedures [✓ Y] N

Form perception

Are you required to:

perceive detail in objects, graphs, pictures [✓ Y] N
make visual comparisons of items [✓ Y] N
shape, bend, form metal, wood, other material Y [✓ N]
detect flaws in materials by shape,alignment [✓ Y] N
examine material for burrs, excess metal [✓ Y] N
recognize components by size,shape,position [✓ Y] N

Clerical perception

Does your job require you to:

perceive detail in verbal or tabular material [✓ Y] N
identify, compare part numbers on work orders [✓ Y] N
put items in numeric or alpha order [✓ Y] N
observe gauges, dials for precise reading [✓ Y] N
record accurate logs, files, inventories [✓ Y] N
fill out requisitions for material [✓ Y] N
evaluate procedures with tables,charts,graphs [✓ Y] N
post data, edit or prepare reports [✓ Y] N

Color discrimination

Are you required to:

match,discriminate between colors from memory [✓ Y] N
compare batch samples to standards Y [✓ N]
sort by shades, hues, saturation Y [✓ N]
mix pigment, dyes, chemicals for correctness Y [✓ N]
detect differences in color of processed parts [✓ Y] N

Comments: ______________________________

Industry Resource Corporation 1/95

OCCUPATION OVERVIEW: TEST TECHNICIAN

JOB SUMMARY

Performs a variety of electronic, mechanical and electromechanical tests on electronic systems, subassemblies, and parts to ensure unit functions according to specifications. Tests functional performance of systems and components utilizing testing instruments, devices, and technical manuals.

REQUISITE QUALIFICATIONS

Knowledge: Basic inspection procedures, use of tools (soldering) and test instruments (multimeter, "O" scopes). Knowledge of "dimensional" mathematics.

Education: AA degree required. College science courses, certificate of training in electronics.

Experience: Minimum of one year previous experience.

Licensure/Certification: ISO certification may be a requirement.

Safety considerations: Compliance with company safety requirements.

Production standards: Quality standards 100%.

LITERACY DEMANDS

Reading, writing, speaking and listening in English to receive, understand and follow instructions from supervisors and production test schedules. Must be able to read technical test manuals, performance specifications, wiring diagrams and schematics. Creates records and reports with and without the use of a computer program. Communicates in group discussions with engineers, technicians and production personnel regarding testing procedures and results. Communicates in team meetings to express own thoughts regarding work schedule and performance improvement. Assists or offer directions to other workers. Participates fully in training and instructional sessions. Utilize a variety of precision instruments for inspection and measurement. Must be able to interpret variety of data and statistical information.

OCCUPATIONAL TASKS

Performs variety of electronic, mechanical, and electromechanical tests on electronic systems, subassemblies, and parts to ensure unit functions according to specifications or to determine cause of unit failure, using electronic test instruments.

Reads test schedule, work orders, test manuals, performance specifications, wiring diagrams, and schematics to determine testing procedure and equipment to be used.

Tests functional performance of systems, subassemblies, and parts under specified environmental conditions, such as temperature change, vibration, pressure, and humidity, using testing devices.

Calibrates test instruments according to specifications. Visually inspects unit for conformance. Connects unit to be tested to test equipment. Reads dials or digital displays that indicate characteristics, such as voltage, frequency, distortion, etc.

Compares results with specifications and records test data or plots test results on graph. Analyzes test results on defective units to determine cause of failure, applying knowledge of electronic theory and using electronic test equipment.

Replaces defective wiring and components, using handtools and soldering iron, or records defects on tag attached to unit and returns unit to production department for repair.

Confers with engineers, technicians, production personnel, and others regarding testing procedures and results and to resolve problems.

May explain and demonstrate testing procedures to other workers.

May devise test equipment setup to evaluate performance and operation of nonstandard or customer returned units.

WORKER TRAITS

GEDs
Reasoning..4
Math.......4
Language...3

DPTs
Data.......2
People.....6
Things.....1

SVP........7

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..2
P-Form.....3
Q-Clerical.3
K-Motor....3
F-Finger...3
M-Manual...3
E-Eye-Hand.5
C-Color....4

PHYSICAL
Strength.M
Climb....O
Balance..N
Stoop....O
Kneel....O
Crouch...N
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....O
Hear.....O
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....O
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......3
Vibration...N
Atmosph.....O
Mech Parts..N
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......O
Other.......N

TEMPERAMENTS

D-Direct....N
R-Repete....N
I-Influence.N
V-Varied....N
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.N
J-Judge..Y

GOE...06

Sources of additional information related to this analysis include the Occupational Titles:

ELECTRONICS TESTER	726.261-018
ELECTRONICS INSPECTOR	726.381-010
INSPECTOR, ELECTROMECHANICAL	729.361-010

Occupation: Test Technician

The three highest rated worker tasks thought to be most impacted by the literacy of the worker include:

Performs variety of electronic, mechanical, and electromechanical tests on electronic systems, subassemblies, and parts to ensure unit functions according to specifications or to determine cause of unit failure, using electronic test instruments.

Reads test schedule, work orders, test manuals, performance specifications, wiring diagrams, and schematics to determine testing procedure and equipment to be used.

Confers with engineers, technicians, production personnel, and others regarding testing procedures and results and to resolve problems.

TEST TECHNICIAN

WORKER TASKS

Performs variety of electronic, mechanical, and electromechanical tests on electronic systems, subassemblies, and parts to ensure unit functions according to specifications or to determine cause of unit failure, using electronic test instruments.

Reads test schedule, work orders, test manuals, performance specifications, wiring diagrams, and schematics to determine testing procedure and equipment to be used.

Tests functional performance of systems, subassemblies, and parts under specified environmental conditions, such as temperature change, vibration, pressure, and humidity, using testing devices.

Calibrates test instruments according to specifications. Visually inspects unit for conformance. Connects unit to be tested to test equipment. Reads dials or digital displays that indicate characteristics, such as voltage, frequency, distortion, etc.

Compares results with specifications and records test data or plots test results on graph. Analyzes test results on defective units to determine cause of failure, applying knowledge of electronic theory and using electronic test equipment.

Replaces defective wiring and components, using handtools and soldering iron, or records defects on tag attached to unit and returns unit to production department for repair.

Confers with engineers, technicians, production personnel, and others regarding testing procedures and results and to resolve problems.

May explain and demonstrate testing procedures to other workers.

May devise test equipment setup to evaluate performance and operation of nonstandard or customer returned units.

TEST TECHNICIAN

WORKER TRAITS

GEDs
Reasoning..4
Math.......4
Language...3

DPTs
Data.......2
People.....6
Things.....1

SVP........7

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..2
P-Form.....3
Q-Clerical.3
K-Motor....3
F-Finger...3
M-Manual...3
E-Eye-Hand.5
C-Color....4

PHYSICAL
Strength.M
Climb....O
Balance..N
Stoop....O
Kneel....O
Crouch...N
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....O
Hear.....O
Taste/
Smell....N

Near Acu.F
Far Acu..N
Depth....O
Accom....O
Color V..O
Field V..N

ENVIRONMENT
Weather.....N
Ext. Cold...N
Ext. Hot....N
Wet/Humid...N
Noise.......3
Vibration...N
Atmosph.....O
Mech Parts..N
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......O
Other.......N

TEMPERAMENTS
D-Direct....N
R-Repete....N
I-Influence.N
V-Varied....N
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.N
J-Judge..Y

GOE...06

Sources of additional information related to this analysis include the Occupational Titles:

ELECTRONICS TESTER	726.261-018
ELECTRONICS INSPECTOR	726.381-010
INSPECTOR, ELECTROMECHANICAL	729.361-010

JOB ANALYSIS INTERVIEW QUESTIONS - REASONING

Understanding instructions

Do you understand and carry out instructions:

in simple one and two step descriptions	[✓ Y]	N
in detailed, but uninvolved oral form	[✓ Y]	N
in detailed, but uninvolved written form	[✓ Y]	N
in detailed written or diagrammatic form	[✓ Y]	N
in accordance with a rational system	[✓ Y]	N
in a manner with limited standardization	[✓ Y]	N

Problem solving

Do you deal with problems involving:

standardized situations, no variables	Y	[✓ N]
standardized situations, few variables	[✓ Y]	N
standardized situations, many variables	[✓ Y]	N
few standards, variety of variables	Y	[✓ N]
interpretation of variety of instructions	[✓ Y]	N
interpretation of extensive instruction	Y	[✓ N]
logical, scientific thought	Y	N
several abstract and concrete variables	Y	[✓ N]

Performance

Are you responsible for:

assisting, directing others on the job	[✓ Y]	N
operation of one or two similar machines	[✓ Y]	N
operation of several types of machines	[✓ Y]	N
organizing your own work time	[✓ Y]	N
setting up, adjusting your own equipment	[✓ Y]	N
performing a variety of duties	Y	[✓ N]
remembering information	[✓ Y]	N
working as a team member	[✓ Y]	N

Knowledge

Does you job require:

skills, ability in one area	Y	[✓ N]
skills, ability in a multiple areas	[✓ Y]	N
special training, specific preparation	[✓ Y]	N
collection, analysis, examination of data	[✓ Y]	N
use of resource documentation	[✓ Y]	N
use of special techniques, processes	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - MATH

Numbers

Do you work with numbers:

in counting, copying, comparing	[✓ Y]	N
in addition, subtraction	[✓ Y]	N
in multiplication, division	[✓ Y]	N
in decimals, fractions	[✓ Y]	N
in computing ratio, rate, percent	[✓ Y]	N
in calculating surfaces, volumes	Y	[✓ N]
in calculating weights, measures	Y	[✓ N]
in calculating plane, solid figures	Y	[✓ N]
in graphs, charts, tables	[✓ Y]	N
in computer applications	[✓ Y]	N

Measurement instruments

Do you work with:

a calculator, ten-key adding machine	[✓ Y]	N
a ruler, yardstick, tape measure	[✓ Y]	N
a spring loaded or electronic scale	[✓ Y]	N
a compass, protractor	[✓ Y]	N
a dial-read or digital gauge, ammeter	[✓ Y]	N
a manual or digital caliper, micrometer	[✓ Y]	N
other measuring devices	[✓ Y]	N

Principles

Do you work with:

algebra, plane and solid geometry	Y	[✓ N]
shop math, mechanics, layout	Y	[✓ N]
conversion of units of measurement	[✓ Y]	N
linear-quadratic equations	[✓ Y]	N
statistical methods, analytical geometry	Y	[✓ N]
advanced calculus, modern algebra	Y	[✓ N]

Comments:

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JOB ANALYSIS INTERVIEW QUESTIONS - LANGUAGE

Reading

Do you have to read and interpret:

signs, symbols, labels	[✓ Y]	N
employee handbooks, forms	[✓ Y]	N
letters, memos, policy procedures	[✓ Y]	N
safety rules for equipment use	[✓ Y]	N
written work instructions	[✓ Y]	N
parts lists, files, orders	[✓ Y]	N
schematics, blueprints, diagrams	[✓ Y]	N
charts, graphs, tables	[✓ Y]	N
gauges, dials, switches	[✓ Y]	N
illustrations, technical drawings	[✓ Y]	N
technical instruction manuals	[✓ Y]	N
contracts, reports	[✓ Y]	N

Writing

Do you have to write:

legibly in cursive style	~~Y~~	[✓ N]
part numbers on forms	[✓ Y]	N
notes, memos, "chits", tags	[✓ Y]	N
filling in charts, tables	[✓ Y]	N
completing records, files	[✓ Y]	N
to copy or record information	[✓ Y]	N
using a computer program	[✓ Y]	N
letters, reports	Y	[✓ N]

Oral Communication

Do you have to:

understand English	[✓ Y]	N
follow oral instructions	[✓ Y]	N
understand a group discussion	[✓ Y]	N
speak English	[✓ Y]	N
ask for clarification or more info	[✓ Y]	N
call for assistance, repair	[✓ Y]	N
request materials or parts	[✓ Y]	N
use a telephone	[✓ Y]	N
speak clearly and distinctly	Y	[✓ N]
speak using correct pronunciation	Y	[✓ N]
speak as a member in a group	[✓ Y]	~~N~~
talk with customers	Y	[✓ N]
instruct others	[✓ Y]	N
offer suggestions, recommendations	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - DEXTERITY

Motor coordination

On the job, are you required to:

work with your eyes and hands or fingers	[✓ Y]	N
make precise movements with speed	Y	[✓ N]
move hands, fingers accurately	[✓ Y]	N
align workpiece to be machined	Y	[✓ N]
adjusting presses, cutters, tools	Y	[✓ N]
calibrate equipment with testing devices	[✓ Y]	N

Finger dexterity

Does your job require you to:

manipulate small objects rapidly,accurately	Y	[✓ N]
work with small, precise hand tools	[✓ Y]	N
use a magnifying lens for precision work	[✓ Y]	N
grasp items with tweezers	[✓ Y]	N
remove parts from jigs, fixtures quickly	Y	[✓ N]
place labels, tags in precise location	[✓ Y]	N
position and move very small parts	[✓ Y]	N

Manual dexterity

Are you required to have the ability to:

work with your arms and hands	[✓ Y]	N
move hands easily and skillfully	[✓ Y]	N
use your hands in turning, placing motions	[✓ Y]	N
manipulate tools with one/both hands	[✓ Y]	N
use control switches, buttons, levers	[✓ Y]	N
build, set-up machines and equipment	[✓ Y]	N
use hands repetitively with moderate force	Y	[✓ N]

Comments:

JOB ANALYSIS INTERVIEW QUESTIONS - PERCEPTION SKILLS

Spatial

Does your job require the ability to:

think visually of geometric forms	[✓ Y]	N
to align parts in a single plane	[✓ Y]	N
position objects in relation to others	[✓ Y]	N
verify placement of components	[✓ Y]	N
determine size,type of parts from diagram	[✓ Y]	N
adjust mechanisms according to specs.	[✓ Y]	N
interpret blueprints, layout procedures	[✓ Y]	N

Form perception

Are you required to:

perceive detail in objects, graphs, pictures	[✓ Y]	N
make visual comparisons of items	[✓ Y]	N
shape, bend, form metal, wood, other material	Y	[✓ N]
detect flaws in materials by shape,alignment	[✓ Y]	N
examine material for burrs, excess metal	Y	[✓ N]
recognize components by size,shape,position	[✓ Y]	N

Clerical perception

Does your job require you to:

perceive detail in verbal or tabular material	[✓ Y]	N
identify, compare part numbers on work orders	[✓ Y]	N
put items in numeric or alpha order	[✓ Y]	N
observe gauges, dials for precise reading	[✓ Y]	N
record accurate logs, files, inventories	[✓ Y]	N
fill out requisitions for material	[✓ Y]	N
evaluate procedures with tables,charts,graphs	[✓ Y]	N
post data, edit or prepare reports	Y	[✓ N]

Color discrimination

Are you required to:

match,discriminate between colors from memory	[✓ Y]	N
compare batch samples to standards	Y	[✓ N]
sort by shades, hues, saturation	Y	[✓ N]
mix pigment, dyes, chemicals for correctness	Y	[✓ N]
detect differences in color of processed parts	Y	[✓ N]

Comments:______________________________

Industry Resource Corporation 1/95

OCCUPATION OVERVIEW: WAREHOUSE WORKER

JOB SUMMARY

Performs any combination of tasks to receive, store, and distribute material, tools, equipment and products. Receives work orders to determine items to be received or shipped either in plant or to an outside customer. Conveys materials and items to designated area by hand, handtruck, pallet jack or forklift.

REQUISITE QUALIFICATIONS

Knowledge: Basic English to read and compare items on list. Basic Math for counting/inventory. Communication skills.

Education: High School graduate or GED.

Experience: No specific training required.

Licensure/Certification: In-house certification for forklift, ISO.

Safety considerations: Must be aware of company safety policies.

Production standards: Dependent upon company guidelines.

LITERACY DEMANDS

Reading, speaking, and listening in English to receive, understand and follow instructions provided on work order or by supervisor. Writing notes, tags, labels on items. Writing on charts, files, tables for records to maintain inventory of quantity and type of material and parts shipped or received. Utilizes a computer program for inventory and shipping charges. Able to communicate in English with supervisors, co-workers to express own thoughts and to participate in group/team meetings and talk with customers. Able to work with numbers, use a calculator, weigh and measure items. Able to interpret data, use a computer program and record statistical information.

OCCUPATIONAL TASKS

Reads work order or follows oral instructions to ascertain materials or containers to be moved.

Records and maintains inventory of quantity and type of materials and parts received, stocked, shipped and/or distributed, either manually or on computer. Compiles and maintains records of material, production schedules.

Verifies and keep records on incoming and outgoing shipments, compares identifying information against bills of lading, invoices, orders.

Determines method of shipment, utilizing knowledge of shipping procedures, routes, and rates.

Inserts items into containers, using spacers, fillers, and protective material, binds containers using tape, strapping material.

Attaches identifying tags, stencils or labels to materials or marks information on cases, or other containers.

Conveys materials to or from storage or work sites to designated area, using handtruck, forklifts, pallet jacks, dolly, or other device. Locates and distributes materials to specified production areas.

Unpacks and examines incoming shipments, inspects for damage, records shortages.

Loads and unloads materials onto or from pallets, trays, racks, and shelves by hand. Loads materials into trucks and vehicles and installs strapping, bracing, or padding to prevent shifting or damage in transit. Lifts heavy objects by hand or using forklift.

Operates forklifts, may operate tier-lifts, hi-rise equipment to move material.

Examines outgoing shipments to ensure shipments meet specifications. Counts, weighs, and records number of units of materials moved or handled on daily production sheet.

Confers with department supervisors to determine overdue materials and parts and to inform supervisors of material status.

WORKER TRAITS

WORKER TRAITS

GEDs
Reasoning..3
Math.......3
Language...3

DPTs
Data.......3
People.....6
Things.....3

SVP........4

APTITUDES
G-Learn....3
V-Verbal...3
N-Numer....3
S-Spatial..4
P-Form.....4
Q-Clerical.3
K-Motor....4
F-Finger...4
M-Manual...3
E-Eye-Hand.3
C-Color....4

PHYSICAL
Strength.H
Climb....O
Balance..O
Stoop....O
Kneel....O
Crouch...O
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....F
Hear.....F
Taste/
Smell....N

Near Acu.F
Far Acu..O
Depth....F
Accom....O
Color V..O
Field V..F

ENVIRONMENT
Weather.....O
Ext. Cold...N
Ext. Hot....N
Wet/Humid.. N
Noise.......4
Vibration...N
Atmosph.....O
Mech Parts..O
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....N
R-Repete....N
I-Influence.N
V-Varied....Y
E-Express...N
A-Alone.....N

TEMPERAMENTS
S-Stress.N
T-Toler..Y
U-Under..N
P-People.Y
J-Judge..N

GOE...05

Sources of additional information related to this analysis include the following Occupational Titles:

INDUSTRIAL TRUCK OPERATOR	921.683-050
MATERIAL HANDLER	929.687-030
MATERIAL EXPEDITER	221.367-042
SHIPPING & RECEIVING	222.387-050

Occupation: Warehouse Worker

The following are factors identified by the various partner companies as return on investment measures which help identify worker performance.

Quantifiable production standards

- Units per hour (units = receipts, picks, shipments)
- Units per shift
- Units per department
- Job knowledge
- Speed, Accuracy, Neatness

Efficiency ratings

- Turn around time
- Work hours per operation
- Cost per operation
- Scrap rates (control of waste)
- Maintaining equipment/work station
- Quality rates of 95% to 100%
- Willingness to work overtime
- Response time

Worker attitudes

- Presenteeism
- Participation in programs
- Suggestions, recommendations
- Self motivated, flexibility, initiative
- Safety awareness, following instructions
- Communication
- Receptive to change
- Willingness to assist customers
- TEAMWORK

Occupation: Warehouse Worker

The following requirements represent the consensus of respondents:

WORKER REQUIREMENTS	**Ver.**	**Ra.**	**Fu.**
Reading			
1 follow uncomplicated instructions in oral or written form	Y	[✓ 1] 2 3	Y
2 follow detailed instructions in written, oral or diagrammatic form	Y	[✓ 1] 2 3	Y
3 read signs, labels, handbooks, forms	Y	1 [✓ 2] 3	Y
4 read memos, safety rules, instructions	Y	1 [✓ 2] 3	Y
5 read blueprints, schematics, diagrams	N	1 2 3	N
Writing			
6 write notes, memos, tags, labels	Y	[✓ 1] 2 3	Y
7 complete records, charts, tables	Y	1 [✓ 2] 3	Y
8 write letters, reports	N	1 2 3	N
Oral Communication			
9 speak and/or understand English	Y	[✓ 1] 2 3	Y
10 ask for assistance, more information	Y	[✓ 1] 2 3	Y
11 request materials, parts	Y	[✓ 1] 2 3	Y
12 participate in group discussions	Y	[✓ 1] 2 3	Y
13 communicate with customers	Y	1 [✓ 2] 3	Y
Problem Solving			
14 solve problems in standard situations	Y	[✓ 1] 2 3	Y
15 solve problems involving many variables	N	1 2 3	[✓ Y]
16 solve problems using broad interpretation	N	1 2 3	[✓ Y]
Performance			
17 operate more than one machine, tool	Y	1 [✓ 2] 3	Y
18 organize own work day/time	N	1 2 3	[✓ Y]
19 set up/adjust own equipment	Y	1 [✓ 2] 3	Y
20 assist and/or direct others on the job	Y	1 [✓ 2] 3	Y
21 remember information	Y	[✓ 1] 2 3	Y
22 work as a team member	Y	[✓ 1] 2 3	Y
Knowledge			
23 complete special training on the job	Y	[✓ 1] 2 3	Y
24 collect, analyze, or examine data	Y	1 [✓ 2] 3	Y
25 use of resource documentation	Y	1 [✓ 2] 3	Y
Numbers			
26 copy and/or compare numbers	Y	1 [✓ 2] 3	Y
27 use a calculator	Y	1 [✓ 2] 3	Y
28 calculate with fractions	Y	1 [✓ 2] 3	Y
Measurement			
29 measure with tapes, scales, gauges	Y	1 [✓ 2] 3	Y
30 convert units of measurement	Y	1 [✓ 2] 3	Y
31 read/interpret data from digital devices	Y	1 [✓ 2] 3	Y
Principles			
32 input/interpret computer data	Y	1 [✓ 2] 3	Y
33 interpret graphs or charts	Y	1 [✓ 2] 3	Y
34 record statistical information	Y	1 [✓ 2] 3	Y

Rating scale: 1 = Vital, 2 = Important, 3 = Needed

Occupation: Warehouse Worker

The three highest rated worker tasks thought to be most impacted by the literacy of the worker include:

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WAREHOUSE WORKER

WORKER TASKS

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WAREHOUSE WORKER

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S-Spatial..4
P-Form.....4
Q-Clerical.3
K-Motor....4
F-Finger...4
M-Manual...3
E-Eye-Hand.3
C-Color....4

PHYSICAL
Strength.H
Climb....O
Balance..O
Stoop....O
Kneel....O
Crouch...O
Crawl....N
Reach....F
Handle...F
Finger...F
Feel.....N

Talk.....F
Hear.....F
Taste/
Smell....N

Near Acu.F
Far Acu..O
Depth....F
Accom....O
Color V..O
Field V..F

ENVIRONMENT
Weather.....O
Ext. Cold...N
Ext. Hot....N
Wet/Humid.. N
Noise.......4
Vibration...N
Atmosph.....O
Mech Parts..O
Elec Shock .N
High Exp....N
Radiation...N
Explosives..N
Toxic.......N
Other.......N

TEMPERAMENTS

D-Direct....N
R-Repete....N
I-Influence.N
V-Varied....Y
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INDUSTRIAL TRUCK OPERATOR	921.683-050
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MATERIAL EXPEDITER	221.367-042
SHIPPING & RECEIVING	222.387-050

JOB ANALYSIS INTERVIEW QUESTIONS - REASONING

Understanding instructions

Do you understand and carry out instructions:

in simple one and two step descriptions	[✓ Y]	N
in detailed, but uninvolved oral form	[✓ Y]	N
in detailed, but uninvolved written form	[✓ Y]	N
in detailed written or diagrammatic form	Y	[✓ N]
in accordance with a rational system	Y	[✓ N]
in a manner with limited standardization	Y	[✓ N]

Problem solving

Do you deal with problems involving:

standardized situations, no variables	[✓ Y]	N
standardized situations, few variables	[✓ Y]	N
standardized situations, many variables	[✓ Y]	N
few standards, variety of variables	[✓ Y]	N
interpretation of variety of instructions	Y	[✓ N]
interpretation of extensive instruction	Y	[✓ N]
logical, scientific thought	Y	[✓ N]
several abstract and concrete variables	Y	[✓ N]

Performance

Are you responsible for:

assisting, directing others on the job	[✓ Y]	N
operation of one or two similar machines	[✓ Y]	N
operation of several types of machines	[✓ Y]	N
organizing your own work time	Y	[✓ N]
setting up, adjusting your own equipment	[✓ Y]	N
performing a variety of duties	[✓ Y]	N
remembering information	[✓ Y]	N
working as a team member	[✓ Y]	N

Knowledge

Does you job require:

skills, ability in one area	[✓ Y]	N
skills, ability in a multiple areas	Y	[✓ N]
special training, specific preparation	[✓ Y]	N
collection, analysis, examination of data	[✓ Y]	N
use of resource documentation	[✓ Y]	N
use of special techniques, processes	Y	[✓ N]

JOB ANALYSIS INTERVIEW QUESTIONS - MATH

Numbers

Do you work with numbers:

in counting, copying, comparing	[✓ Y]	N
in addition, subtraction	[✓ Y]	N
in multiplication, division	[✓ Y]	N
in decimals, fractions	Y	[✓ N]
in computing ratio, rate, percent	Y	[✓ N]
in calculating surfaces, volumes	Y	N
in calculating weights, measures	[✓ Y]	N
in calculating plane, solid figures	Y	[✓ N]
in graphs, charts, tables	Y	[✓ N]
in computer applications	[✓ Y]	N

Measurement instruments

Do you work with:

a calculator, ten-key adding machine	[✓ Y]	N
a ruler, yardstick, tape measure	[✓ Y]	N
a spring loaded or electronic scale	[✓ Y]	N
a compass, protractor	Y	[✓ N]
a dial-read or digital gauge, ammeter	Y	[✓ N]
a manual or digital caliper, micrometer	Y	[✓ N]
other measuring devices	Y	[✓ N]

Principles

Do you work with:

algebra, plane and solid geometry	Y	[✓ N]
shop math, mechanics, layout	Y	[✓ N]
conversion of units of measurement	Y	[✓ N]
linear-quadratic equations	Y	[✓ N]
statistical methods, analytical geometry	Y	[✓ N]
advanced calculus, modern algebra	Y	[✓ N]

Comments:

WAREHOUSE

JOB ANALYSIS INTERVIEW QUESTIONS - LANGUAGE

Reading

Do you have to read and interpret:

signs, symbols, labels	[✓ Y]	N
employee handbooks, forms	[✓ Y]	N
letters, memos, policy procedures	[✓ Y]	N
safety rules for equipment use	[✓ Y]	N
written work instructions	[✓ Y]	N
parts lists, files, orders	[✓ Y]	N
schematics, blueprints, diagrams	Y	[✓ N]
charts, graphs, tables	Y	[✓ N]
gauges, dials, switches	Y	[✓ N]
illustrations, technical drawings	Y	[✓ N]
technical instruction manuals	Y	[✓ N]
contracts, reports	Y	[✓ N]

Writing

Do you have to write:

legibly in ~~cursive~~ PRINTING style	[✓ Y]	N
part numbers on forms	[✓ Y]	N
notes, memos, "chits", tags	[✓ Y]	N
filling in charts, tables	Y	[✓ N]
completing records, files	Y	[✓ N]
to copy or record information	[✓ Y]	N
using a computer program	[✓ Y]	N
letters, reports	Y	[✓ N]

Oral Communication

Do you have to:

understand English	[✓ Y]	N
follow oral instructions	[✓ Y]	N
understand a group discussion	[✓ Y]	N
speak English	[✓ Y]	N
ask for clarification or more info	[✓ Y]	N
call for assistance, repair	[✓ Y]	N
request materials or parts	[✓ Y]	N
use a telephone	[✓ Y]	N
speak clearly and distinctly	[✓ Y]	N
speak using correct pronunciation	[✓ Y]	N
speak as a member in a group	[✓ Y]	N
talk with customers	[✓ Y]	N
instruct others	[✓ Y]	N
offer suggestions, recommendations	[✓ Y]	N

JOB ANALYSIS INTERVIEW QUESTIONS - DEXTERITY

Motor coordination

On the job, are you required to:

work with your eyes and hands or fingers	[✓ Y]	N
make precise movements with speed	[✓ Y]	N
move hands, fingers accurately	[✓ Y]	N
align workpiece to be machined	Y	[✓ N]
adjusting presses, cutters, tools	Y	[✓ N]
calibrate equipment with testing devices	Y	[✓ N]

Finger dexterity

Does your job require you to:

manipulate small objects rapidly,accurately	Y	[✓ N]
work with small, precise hand tools	Y	[✓ N]
use a magnifying lens for precision work	Y	[✓ N]
grasp items with tweezers	Y	[✓ N]
remove parts from jigs, fixtures quickly	Y	[✓ N]
place labels, tags in precise location	[✓ Y]	N
position and move very small parts	Y	[✓ N]

Manual dexterity

Are you required to have the ability to:

work with your arms and hands	[✓ Y]	N
move hands easily and skillfully	[✓ Y]	N
use your hands in turning, placing motions	[✓ Y]	N
manipulate tools with one/both hands	[✓ Y]	N
use control switches, buttons, levers	[✓ Y]	N
build, set-up machines and equipment	Y	[✓ N]
use hands repetitively with moderate force	[✓ Y]	N

Comments: ____________________

JOB ANALYSIS INTERVIEW QUESTIONS - PERCEPTION SKILLS

Spatial

Does your job require the ability to:

think visually of geometric forms	[✓ Y]	N
to align parts in a single plane	[✓ Y]	N
position objects in relation to others	[✓ Y]	N
verify placement of components	[✓ Y]	N
determine size,type of parts from diagram	Y	[✓ N]
adjust mechanisms according to specs.	Y	[✓ N]
interpret blueprints, layout procedures	Y	[✓ N]

Form perception

Are you required to:

perceive detail in objects, graphs, pictures	Y	[✓ N]
make visual comparisons of items	[✓ Y]	N
shape, bend, form metal, wood, other material	Y	[✓ N]
detect flaws in materials by shape,alignment	[✓ Y]	N
examine material for burrs, excess metal	Y	[✓ N]
recognize components by size,shape,position	[✓ Y]	N

Clerical perception

Does your job require you to:

perceive detail in verbal or tabular material	[✓ Y]	N
identify, compare part numbers on work orders	[✓ Y]	N
put items in numeric or alpha order	[✓ Y]	N
observe gauges, dials for precise reading	Y	[✓ N]
record accurate logs, files, inventories	[✓ Y]	N
fill out requisitions for material	[✓ Y]	N
evaluate procedures with tables,charts,graphs	Y	[✓ N]
post data, edit or prepare reports	Y	[✓ N]

Color discrimination

Are you required to:

match,discriminate between colors from memory	[✓ Y]	N
compare batch samples to standards	Y	[✓ N]
sort by shades, hues, saturation	Y	[✓ N]
mix pigment, dyes, chemicals for correctness	Y	[✓ N]
detect differences in color of processed parts	Y	[✓ N]

Comments:______________________________

Industry Resource Corporation 1/95

Appendix B

Additional Job Analysis

Employment and Training Administration / US Department of Labor

Skills Standards & Certification

Connection between education and employment

TTRC Home Skill-Stds

Assessment Issues

Author

American Electronics Association

Title

Setting the Standard: A Handbook on Skill Standards for the High-Tech Industry

Source

Santa Clara, CA: American Electronics Association, 1994

Type of Document

Reference

Length of Description

The following information is approximately 40 screens in length. If downloaded, it is approximately 16 word processing pages.

Summary

Editor's Note: The following is based on materials extracted directly from the document.

MANUFACTURING SPECIALIST

Critical Function 1: Ensure production process meets business requirements

Activity 1:1

Integrate improvement processes into each critical function

a. Quality monitoring and improvement processes are performed and are documented according to company procedures.
b. Deviation and root cause of deviation are identified from ongoing analyses of processes.
c. Recommendations for process improvement are documented, approved, and implemented.

Activity 1:2

Meet health, safety, and legal requirements with regard to process, product, and people

a. Health and safety requirements and procedures are implemented and followed at all times.

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b. Potential health and safety hazards are identified through continuous safety reviews.
c. Confidentiality of proprietary information is protected according to company policy.
d. Company standards of business conduct are followed.

Activity 1:3

Select, set up, and perform diagnostic tests

a. The selected test method meets product specifications and customer requirements.
b. The test method is safe, cost-effective, and meets time needs.
c. Equipment set-up conforms to required test and space specifications.
d. Test equipment is calibrated correctly and functions according to specifications.
e. Proper handling procedures are followed.
f. Test and test documentation are completed according to prescribed sequence, time, and quality requirements.
g. Test results and serialization of tested products are accurately documented.

Activity 1:4

Analyze and interpret test data for problems that require corrective actions and for compliance with specifications

a. Product or process deviations and root causes of deviations are accurately identified and documented, and corrective action is initiated.
b. Systems for evaluating remedial action are established.
c. Corrective actions and appropriate recommendations are documented.
d. Products forwarded to customer on a conditional accept basis are accompanied by accurate documentation completed to customer specifications.
e. Tests are in compliance with legal requirements, company policy, and customer specifications.

Critical Function 2: Initiate and sustain communication processes and procedures

Activity 2:1

Create and enhance effective, productive relationships within the work group

a. Constructive feedback and active support are sought from and provided to individuals within the work group and to the work group as a whole.
b. Co-workers and colleagues are treated with professionalism and respect at all times.
c. Disagreements, conflicts, and grievances are settled in a positive and timely manner according to company procedures.
d. Individual and work group roles and expectations are defined.

Activity 2:2

Manage communication beyond the work group

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a. Communication is established with customer to determine needs, requirements, and expectations.
b. Active support is offered to other work groups and individuals.
c. Communication with other specialist staff is effective, open, and complete.
d. Communication processes and procedures are reviewed and improved on an ongoing basis.

Critical Function 3: Establish Customer Needs

Activity 3:1

Interpret and clarify specifications prepared by others

a. All relevant customer specifications are obtained.
b. When necessary, specifications are confirmed with others for clarity, completeness,and viability.
c. interpreted completely and in a timely manner.

Activity 3:2

Communicate with customer to establish requirements

a. Customer requirements are obtained and documented.
b. Customer is informed when needs cannot be met, and alternate recommendations are made.
c. Communications are clear, concise, and delivered appropriately.
d. Customer feedback is communicated to relevant specialists.*

*Manufacturing specialists or other specialists in other areas (design, engineering, etc.) in and out of the company.

Critical Function 4: Determine design workability and manufacturability

Activity 4:1

Build processes and prototypes in conjunction with specialist staff

a. Details of prototype builds and procedures are documented.
b. Necessary documentation is up to date, accurate, and accessible.
c. Prototype is produced according to internal product design, engineering instructions, and customer specifications on schedule and within cost constraints.

Activity 4:2

Assess the prototype and prototype-build process for workability and manufacturability, and recommend improvements

a. Workability and manufacturing criteria are established.
b. The prototype-build process is tested against test plan/procedures.
c. The test data are documented and indicate whether the test process accurately and completely verifies the prototype performance.
d. Recommendations for process improvement are documented and communicated to the appropriate specialists.*

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*Manufacturing specialists or other specialists in other areas (design, engineering, etc.) in and out of the company.

Critical Function 5: Use human resources to manage workflow

Activity 5:1

Identify and plan for work group human resource requirements

a. Skill and time requirements are identified based on current and forecasted work schedules.
b. Certification/qualifications of individuals are reviewed and documented.
c. Individuals are assigned in a way that matches skills with task requirements.
d. Availability of individuals is assessed on an ongoing basis.
e. Contingency plans are prepared to meet shortfalls in skill availability.
f. Work assignments are reviewed and monitored in order to optimize up time.

Activity 5:2

Assess and meet work group training and development needs

a. Training needs are identified for self and others and evaluated against requirements.
b. Documentation of courses taken and skills acquired is completed in a timely and accurate manner.
c. Work group and individual time and resources are adequate to meet training goals.
d. Relevant training, cross training, and development activities are made available on and off the job as appropriate.
e. Training strategies and tools are developed or obtained that enable the group and group members to meet training goals.
f. Systems for evaluating training within work group are in place.

Activity 5:3

Assess and provide feedback on performance

a. Performance is assessed against customer requirements and assessment outcomes are documented according to company procedure.
b. Individual and team roles and performance objectives are clearly identified.
c. Assessment is based on clearly stated performance standards.
d. Specific feedback is communicated as needed to appropriate person(s).

Activity 5:4

Make team hiring, reward, reassignment, and removal recommendations based on company standards*

a. Individual contributions and deficiencies are identified.
b. Recommendations for team hiring, reassignment, reward, or removal are fully documented in accordance with company procedures and legal requirements.
c. Recommendations on these matters are made to the appropriate people.

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JOB ANALYSIS REPORT

Title: Double-end Tenoner　　Company: Steelcase

Analyst: Tom Siegfried　　Date: May 22, 1996

JOB SUMMARY

Sets up and operates single- or double-end machine to cut woodcores, or to size, trim, groove, or shape ends of woodstock to be used in manufacturing process. Organizes production schedule for manufacturing line, delivers woodstock to production areas and oversees inventory of material for line.

REQUISITE QUALIFICATIONS

The following qualifications, based upon the findings of this job analysis, have been identified by the employer as required by all candidates for this classification.

Knowledge: Understanding and interpreting manufacturing blueprints and work order instructions. Computer literacy and ability to write programs for machine operation. Background knowledge of math and measurement.

Skills: Must have good communication and organizational skills. Mechanical aptitude, eye-hand coordination, good visual skills, and full range of motion.

Education: Per Company policy or receipt of high school diploma.

Experience: No specific previous work experience required. Must have good judgment and be qualified as a forklift operator. Acquired skills with tools and equipment in manufacturing process recommended.

Licensure/Certification: Must possess a forklift operator license.

Safety considerations: Must observe all safety requirements, wears safety glasses, protective gloves, ear plugs and steel-toed shoes.

Production standards: Quantity performance demands must be met to maintain the flow of work on production line. Quality performance demands are critical to insure flow of work on production line.

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WORKER DEMANDS

Mental demands: The classification requires reading and interpretation of a variety of manufacturing documentation including machine operation instructions and production schedule information. Use of computer systems. Above average reasoning skills with good judgment, memory and decision making capability, good to superior organizational skills including knowledge of inventory control, production planning and system line operations. Ability to make necessary mathematical computations including conversion of metric system to U.S. standard measure. Ability to perceive detail in writing or tables of information, prepare reports and maintain records. Spatial aptitude to align material and interpret blueprints is required.

Physical demands: The strength requirements of this job are of heavy level, with demands for standing, lifting and carrying. Demands include loading/unloading woodstock material by hand and utilizing forklift. Lifting is estimated (not measured) at 50 - 60 lbs. The job also demands frequent reaching, with frequent handling of materials and equipment. Motor coordination is required at medium skill levels, finger and manual dexterity required at medium skill levels. Communication with co-workers, lead personnel and supervisors is required to maintain production flow. Visual acuity (near vision) on a frequent basis for inspection of material; depth perception is required on frequent basis; color vision is needed to detect variation in the color of processed (milling) material.

The information contained in this job analysis is a reflection of the data obtained through discussions with the Subject Matter Expert and current incumbent performing the operations of this classification. Additionally, an extensive review of the work activities based upon documentation, as well as, direct observation was conducted. To the best of our knowledge, it factually represents the classification and its requirements.

Tom Siegfried

Tom Siegfried
Analyst

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WORKER TRAITS

General Educational Development (GED) depicts formal & informal education developing basic reasoning, math and language skills. Experience or self-study can also develop GED.

Reasoning Level:

Scale: 6 High - 1 Low This title: Level 4 - High Avg.

Apply principles of rational systems and commonsense understanding to solve practical problems, carry out a variety of instructions furnished in written, oral or diagrammatic form. Deal with a variety of concrete variables in situations.

Math Level:

Scale: 6 High - 1 Low This title: Level 3 - Avg.

Add, subtract, multiply, and divide all units of measure. Examines blueprints for set-ups. Perform algebraic and geometric functions, uses layout principles, linear scales and understanding of angles.

Language Level:

Scale: 6 High - 1 Low This title: Level 3 - Avg.

Reading: Read safety rules, instructions in the use and maintenance of tools and equipment, and methods and procedures in machine operations including programming computer work stations.

Writing: Keep accurate logs of information with proper format, punctuation, spelling, and utilizing a computer program. Establishes schedules for production line.

Speaking: Speak as a member in a group using correct English. Talk to co-workers, prioritize work assignments and instruct others on job.

Aptitudes are the capacities or specific abilities which an individual must posses in order to learn to perform a given work activity. Scale 1 High - 5 Low

	Degree of Aptitude Ability:	
General Learning Ability	3 - Medium	34% to 65%
Verbal Aptitude	3 - Medium	34% to 65%
Numerical Aptitude	3 - Medium	34% to 65%
Spatial Aptitude	2 - Higher	66% to 90%
Form Perception	3 - Medium	34% to 65%
Clerical Perception	3 - Medium	34% to 65%
Motor Coordination	3 - Medium	34% to 65%
Finger Dexterity	3 - Medium	34% to 65%
Manual Dexterity	3 - Medium	34% to 65%
Eye-Hand-Foot Coordination	3 - Medium	34% to 65%
Color Discrimination	4 - Lower	10% to 33%

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WORK TASKS

Reads and interprets instructions, blueprints, diagrams and specifications to determine size, shape type and setting of saw blades, cutters to be used.

Selects and installs blades, cutters and accessories into machinery using hand tools.

Selects program on computer controls for specific operation to be run. Adjusts/programs computer for new specifications per work orders.

Inspects processed materials for adherence to specifications. Makes adjustments on equipment as needed.

Sets up production schedule for line based on work orders and inventory on hand, using a variety of schedules, models, work orders and tally sheets to prioritize work loads. Tags/labels inventory with part numbers.

Sets up and operates panel saws and other equipment as needed to trim woodcore as preparation to production.

Loads/offloads woodstock on production line for staging. Drives forklift and manually moves materials.

Maintains inventory control on woodstock in area, checking material sheets and production schedules. Drives forklift and manually moves materials.

Maintains machines in working condition. Changes tooling as required.

Communicates with co-workers on production schedules, material requests and line operations.

JOB ANALYSIS REPORT

Title: Driver

Company: Waste Management

Analyst: Tom Siegfried

Date: March 27, 1996

JOB SUMMARY

Perform driving duties as assigned on various routes to collect and/or dispose of trash and recyclable materials.

Status....... Full Time [X]   Part Time [ ]   Temporary [ ]
Position is.. Hourly [X]   Exempt [ ]
Required..... Overtime [X]   Travel [ ]
Required..... Transport [ ]   Tools [ ]

REQUISITE QUALIFICATIONS

The following qualifications, based upon the findings of this job analysis, have been identified by the employer as required by all candidates for this classification.

Knowledge: Understand California State laws and regulations involving tractor/trailer operations.

Skills: Good physical health and hand/eye coordination and manual dexterity to operate 9 or 10 speed vehicles. Good vision (corrected) required.

Experience: Minimum of 2 years previous commercial driving experience.

Licensure/Certification: Must meet license requirements for Class A, Class B, Class C requirements as needed for position.

Safety considerations: Awareness of occupational safety requirements involving all driving regulations and handling of equipment and material.

Production standards: Production standards identified for trip time limits as set by supervisory personnel.

WORK TASKS

Tasks: Conduct inspection of vehicle according to guidelines, completing vehicle condition report(VCR).

Drives truck on public streets and highways to collect and/or haul trash to yard or disposal area.

Loads/unloads trash material in truck at yard or disposal site, using hydraulic lifting controls and devices.

Observes gauges, switches and lights on truck instrument panel to operate vehicle.

Communicates with two way radio and/or telephone to notify supervisor of delays/problems.

Records mileage and time on driver log.

Changes trailers as needed. Cleans and washes truck.

WORKER TRAITS

General Educational Development (GED) depicts formal and informal education developing basic reasoning, math and language skills.

Reasoning Level:

Scale: 6 High - 1 Low This title: Level 3 - Avg.

Apply commonsense understanding to carry out instructions furnished in written, oral or diagrammatic form. Deal with problems involving several concrete variables in or from standardized situations.

Math Level:

Scale: 6 High - 1 Low This title: Level 1 - Low

Add and subtract two digit numbers. Perform the four basic arithmetic operations with coins as part of a dollar.

Language Level:

Scale: 6 High - 1 Low This title: Level 1 - Low

Reading: Read signs, symbols, labels, safety rules, handbooks, forms, memos, maps, switches in English or Spanish.

Writing: Completes vehicle condition report (checklist). Write notes on occasion. May complete an accident report. Copy and record data on forms in English or Spanish.

Speaking: Speak, on occasion, using English or Spanish language. Use two way radio.

WORKER DEMANDS

Physical demands: Climbing and balancing required to ascend and descend from truck cab. Motor coordination and manual dexterity required at medium skill levels. Able to use arms and hands in operating control levers, dials, steering wheel. Spatial aptitude is reliant upon visual acuity both in near vision and far vision on a frequent basis for driving and inspection of equipment; depth perception and field of vision is required on frequent basis for positioning and placement of truck and equipment.

Mental demands: Specific vocational preparation of approximately two years from commercial driving experience is required. On the job training time equivalent to approximately 1 year on site is considered necessary to attain productive level of worker. Able to adhere to safety and inspection work procedures. Able to operate several types of trucks and vehicles. Able to monitor truck gauges while driving for safe operation. Able to work as a member of a team.

The information contained in this job analysis is a reflection of the data obtained through discussions with the Subject Matter Expert and current incumbents performing the operations of this classification. Additionally, an extensive review of the work activities based upon documentation, as well as, direct observation was conducted. To the best of our knowledge, it factually represents the classification and its requirements.

Tom Siegfried
Analyst

JOB ANALYSIS REPORT

Title: Sorter	Company: Waste Management
Analyst: Tom Siegfried	Date: March 27, 1996

JOB SUMMARY

Perform sorting duties as assigned on various work station and work lines to separate materials.

Status.......	Full Time	[X]	Part Time	[ ]	Temporary	[ ]
Position is..	Hourly	[X]	Exempt	[ ]		
Required.....	Overtime	[X]	Travel	[ ]		
Required.....	Transport	[ ]	Tools	[ ]		

REQUISITE QUALIFICATIONS

The following qualifications, based upon the findings of this job analysis, have been identified by the employer as required by all candidates for this classification.

Skills: Good hand/eye coordination and manual dexterity to work with moving materials. Good vision (corrected) required. Ability to stand and reach on a continuous basis.

Safety considerations: Awareness of occupational safety requirements involving the work area and handling of materials.

Production standards: No production standards identified, line speed is set by lead personnel.

WORK TASKS

Tasks: On trash line, open trash bags and spread trash on conveyor belt at the start of the line.

Visually identify items for sorting (wood, glass, plastic, metal, paper, cardboard, chemicals/oils, green waste) in trash on conveyor belt areas.

On recycle line, visually identify items for sorting (clear and colored plastic cartons and bottles, aluminum cans, cardboard) in recyclable material on conveyor belt.

On newspaper line, visually identify items for sorting (newspaper) in paper and recyclable material on conveyor belt.

Reach and grab items for sorting, drop into selected bin.

May perform recycling receiving service for general customers.

WORKER TRAITS

General Educational Development (GED) depicts formal and informal education developing basic reasoning, math and language skills.

Reasoning Level:

Scale: 6 High - 1 Low   This title: Level 1 - Low

Apply commonsense understanding to carry out simple one- or two-step instructions. Deal with standardized situations with occasional or no variables in or from these situations encountered on the job.

Math Level:

Scale: 6 High - 1 Low   This title: Level 1 - Low

Add and subtract two digit numbers. Perform the four basic arithmetic operations with coins as part of a dollar.

Language Level:

Scale: 6 High - 1 Low   This title: Level 1 - Low

Reading: Read signs, symbols, labels, safety rules, handbooks, forms, memos, switches in English or Spanish.

Writing: Write notes on occasion. Copy and record data on forms in English or Spanish.

Speaking: Speak as a member in a group using English or Spanish language. May talk to customers on occasion.

WORKER DEMANDS

Physical demands: Constant standing with constant reaching and handling of materials. Climbing and balancing required to reach work stations. Motor coordination, finger and manual dexterity required at medium skill levels. Spatial and form perception are reliant upon visual acuity (near vision) on a frequent basis for examination of materials, comparison of items, determination of clean or dirty materials; depth perception is required on frequent basis for positioning and placement of arms and hands; color vision is required on an occasional basis for color verification on glass and paper products.

Mental demands: Specific vocational preparation from experience is not required. On the job training time equivalent to approximately 1 day to 1 week is considered necessary to attain productive level of worker. Able to adhere to safety work practices. Able to work as a member of a team.

The information contained in this job analysis is a reflection of the data obtained through discussions with the Subject Matter Expert and current incumbents performing the operations of this classification. Additionally, an extensive review of the work activities based upon documentation, as well as, direct observation was conducted. To the best of our knowledge, it factually represents the classification and its requirements.

Tom Siegfried
Analyst

Appendix C

Distance Learning Pilot

Distance Learning Program
Pilot Project (9-96 to 12-96)

Objective: Deliver a superior basic skills distance learning system into the worksite via computer that also includes an individualized home-study component for employee/students.

Target Audience: Volunteer employees who want and need to improve their basic skills for better workplace performance.

Return on Investment:
- Employee/student will demonstrate improved reading and/or writing skills
- Each employee will define his/her own unique objective that would be completed during the 12 week course
- Employees' supervisors will define a particular job-related, measureable outcomes for each student

Companies will provide:
- Multimedia computers for students to use before or after their shifts. Each student must have at least 2 hours a week at the computer.
- A modem to send student data back to JobLink
- Limited Internet access and email address for participating students
- Limited computer support
- A meeting place for student and instructor
- A meeting with participants' supervisors- at the outset of the project
- Limited fax usage - 4 to 6 times, per student, during the 12 weeks

JobLink will provide:
- An on-site instructor to meet with students, administer assessments, complete ROI with supervisors, guide student/employees meeting with them face to face, with email, and over the telephone
- "Destinations", an integrated learning system, provided by Simon and Schuster publishing to each participating company for the duration of this project, for the purpose of beta testing. Companies will need to sign a letter or agreement
- Limited computer support to establish and maintain Destinations and email connections
- Individualized student packets containing books on tape, lessons to complete with audio taped directions, and activities to complete with other employees or family members
- Statistical information on the outcomes of the pilot project

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Time Commitment:

- Each employee would be required to complete 2 hours a week using the worksite computer
- In additon, each employee would spend 2 hours a week completing their personal study packets.
- The course will last 12 weeks with a minimum of 48 hours of instuction.

Assessment Tools: In order to gather meaningful statistical data a variety of measurements will be used. These will include:

- TABE, pre and post
- ROI survey from both employee and supervisor, at the beginning, middle and end of the program;
- Destinations placement test and lesson completed
- Email activity
- Reading log activity
- Student and supervisor interviews.

Time Line: In order to gather the statistical information required for this pilot study, instruction should begin during the first week of September and continue to through November.

JobLink Pilot Distance Learning Program

Beta Test Fall 1996

To harness the power of new technologies for the literacy student, JobLink designed and beta tested a comprehensive, multimodal, on-line, distance learning system during the fall of 1996. The goal was to distance deliver a complete solution to workplace literacy both in terms of content and management system. JobLink partnered with Simon and Schuster and Educational Activities and delivered the program into 3 manufacturing facilities in Orange County,California. These sites included Alcon, 3M Health Care CDI, and Deft. 25 employees participated in this 12 week JobLink Distance Learning Program.

Employees worked on-site on Simon and Schuster's *Destinations Integrated Learning System* (ILS) for 2 hours a week and exchanged e-mail with instructors at the JobLink lab several times each week. In addition, employees completed 2 hours of homework using Educational Activities, *How to Write for Everyday Living* , and a series of books on tape from New Reader Press that included *The Fitting In* and the *Sundown Series* Collections.

Employers at the 3 manufacturing plants set up computers for employees to use and allowed them to use the ILS and to send and receive e-mail. JobLink furnished cassette tape recorders and a variety of books and tapes for each employee, while Simon and Schuster contributed the CD ROM version of Destinations to all sites and Educational Activities provided both the books and tapes for students to complete 20 writing lessons. A JobLink instructor worked on site with students to get them started and then worked with them in the on-line environment.

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The program used 4 measurements to evaluate the each student:

Reading: A standardized reading test was given to students at the beginning and end of the program. The test used was the TABE, Test of Adult Basic Education, Form D. There were 50 questions on the test, and it measured from .7 to 12.9+ grade level equivalency. *Overall reading scores improved 1.1 grade level per student.*

"My reading skills have improved because now I read procedures better than before." Alcon Distance Learning Student

Writing: A writing sample was taken at the beginning and end of the 12 weeks. Each employee completed audio taped writing lessons, weekly written assignments, and used e-mail. An analysis of each students writing was completed measuring word volume and sentence complexity. *Based on the writing samples all employees increased their writing skills. Both word production and sentence complexity increased over 100%.*

"Writing is the most difficult for me and using e-mail helps me a lot. I am so happy with my performance." 3M Health Care CDI Distance Learning Student

"I liked using the writing tapes. They were easy to use, and I could listen over and over." Alcon Distance Learning Student

Self Assessment: All employees rated themselves and their skills at the beginning and end of the program. There were 7 areas that included reading, writing, understanding, and speaking English, working on a team, using math and solving problems. Employees rated themselves as poor, fair, good or excellent, with a range of 1 to 4 points. *Every employee rated themselves higher at the end of the program than they did at the beginning.*

"I think I can understand and do more now. I can do some things on the computer that other employees here cannot do. Sometimes they ask me to show them how to do things, and I feel real good." Deft Distance Student

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Job Improvement: All employees and their supervisors were asked if the employee did their job better now than they did before the class. *All participants and supervisors confirmed that the employee was doing a better job after the class.*

"Good program. Have seen employees become more assertive in the workplace as a result." Alcon Supervisor

" Her overall attitude changed. She really is getting into learning and asks questions all day. Her energy level has increased, and I look forward to having her become a team leader in the future." 3M Supervisor

In February 1997 JobLink will launch a revised distance learning program. The new program will reflect all the input students, supervisors and instructors have provided. This new system will be 100% delivered on-line but will include audio tapes, workbooks, and team activities. 5 Orange County manufacturers have signed on to offer the program on site and some 200 employee/students will participate. This asynchronous distance learning system for literacy students may be the only one of its kind being successfully used in corporate environments today.

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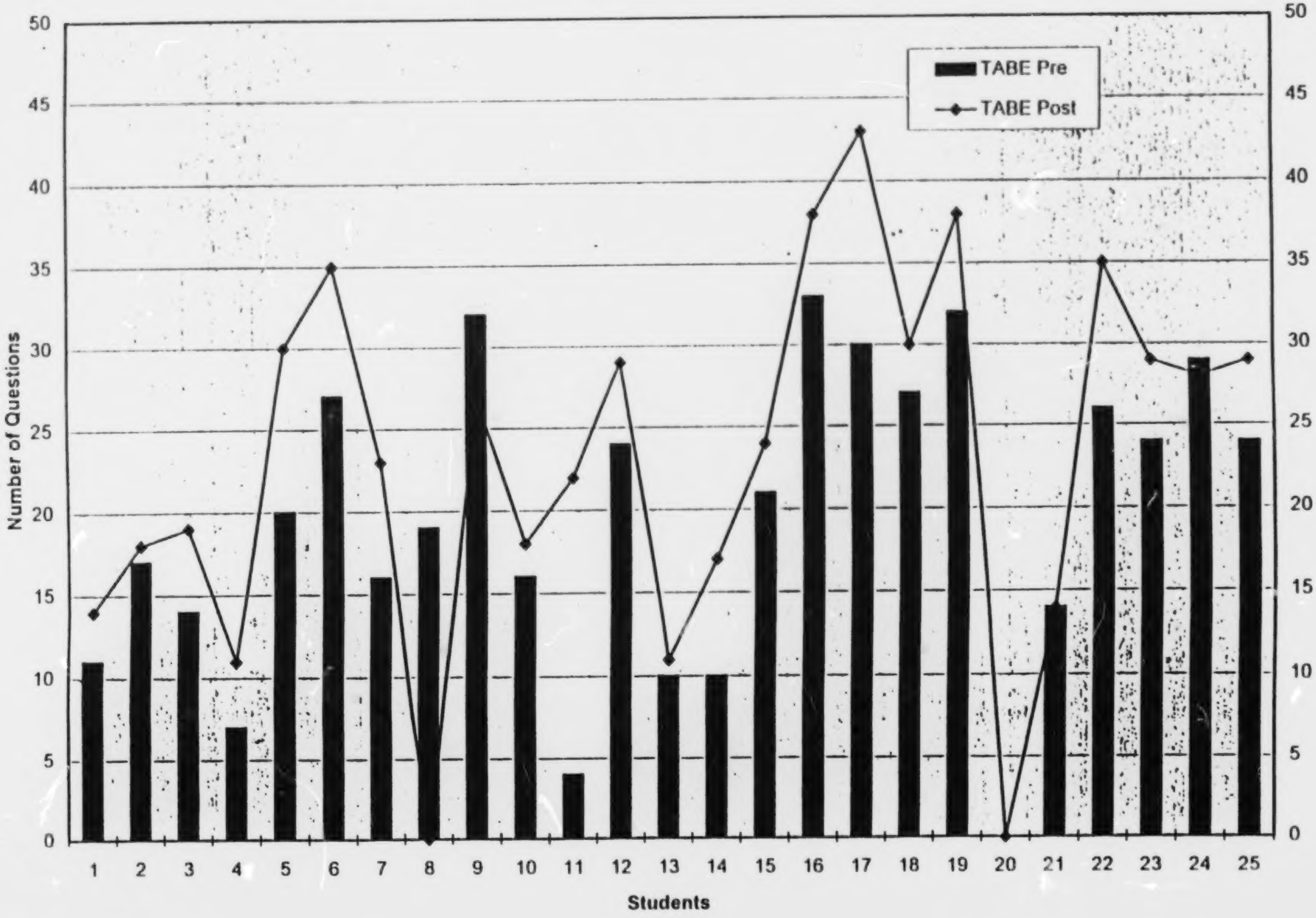
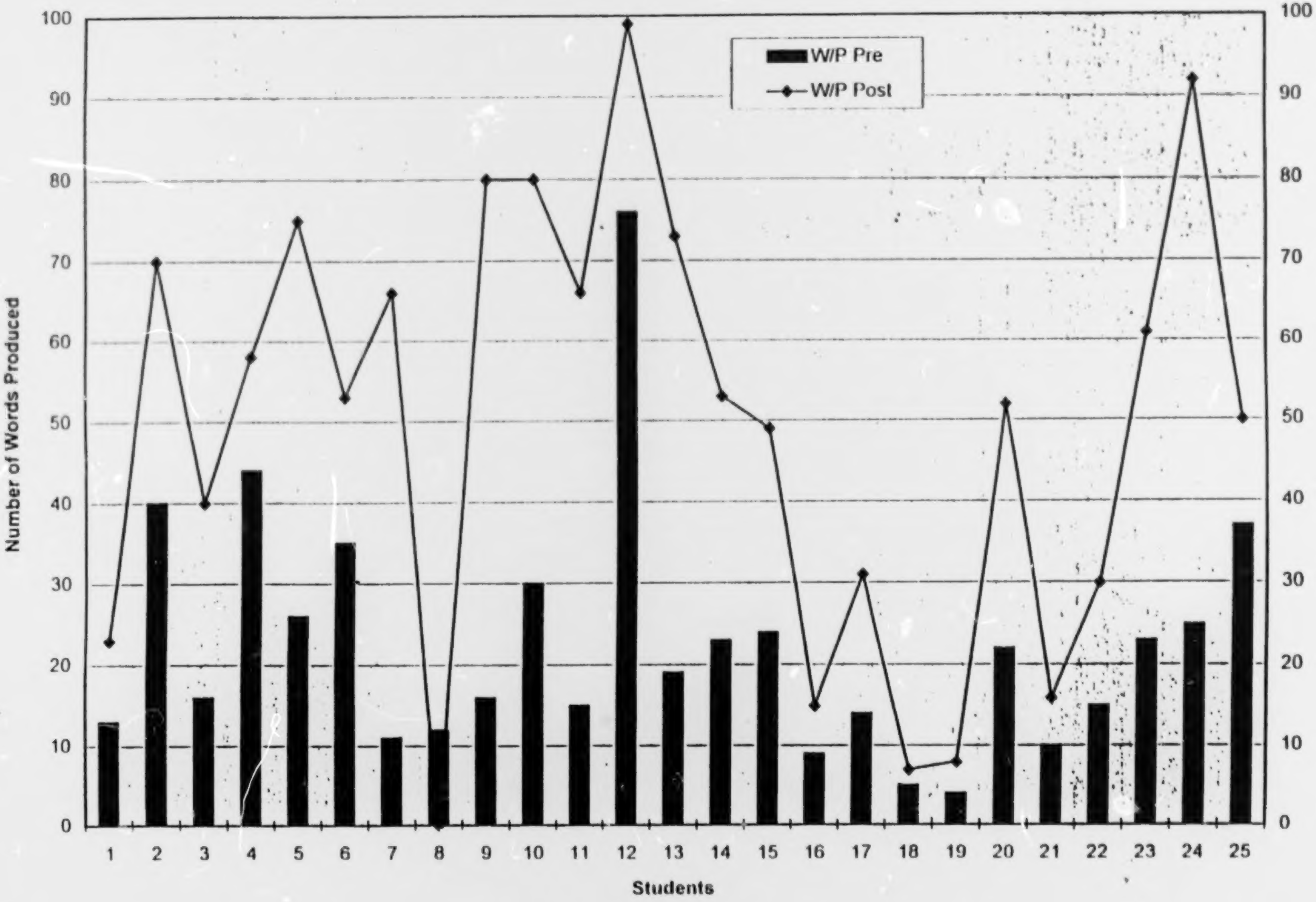
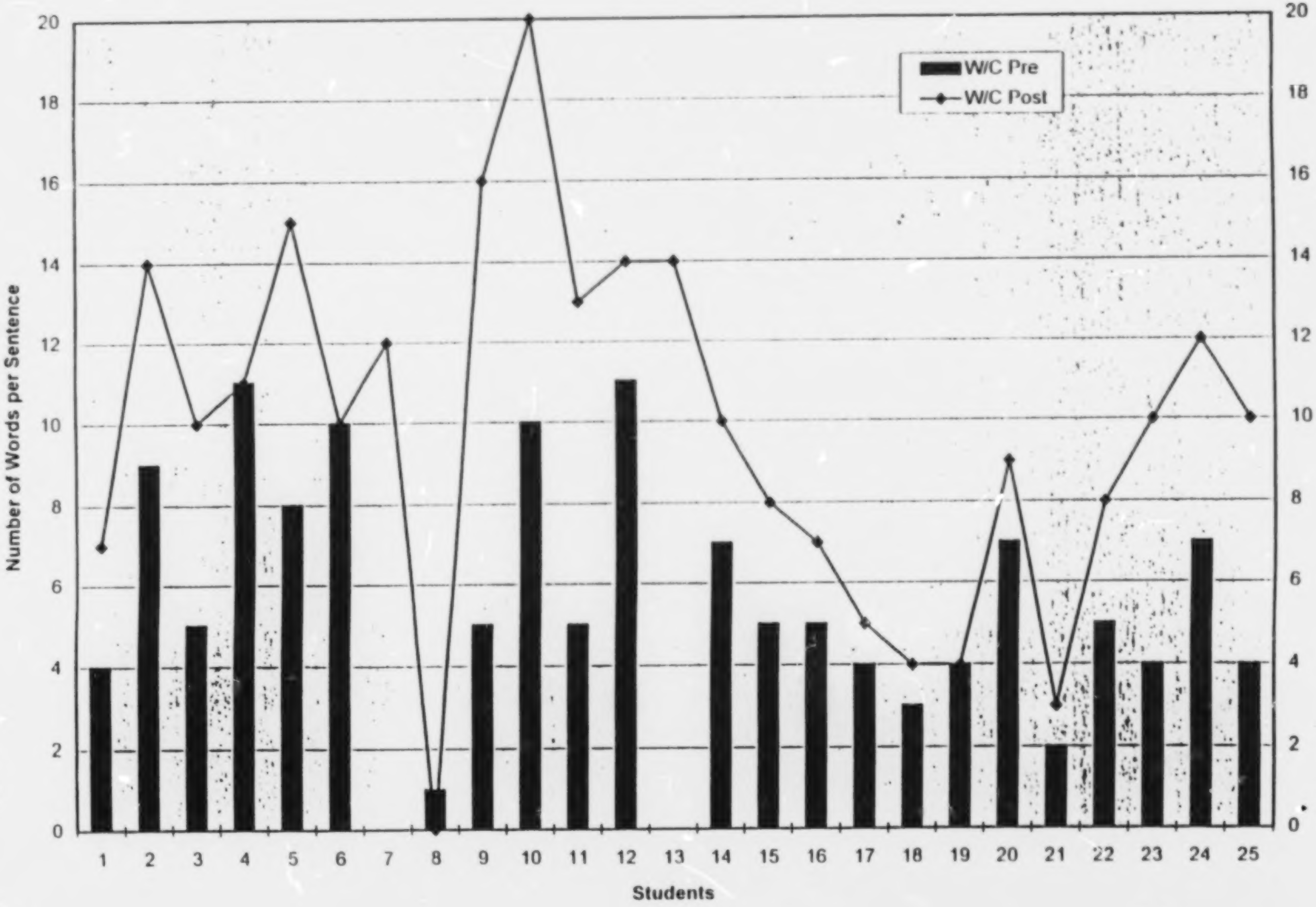
Reading - Pre and Post Test



Writing Production - Pre and Post Test



Writing Complexity - Pre and Post Test



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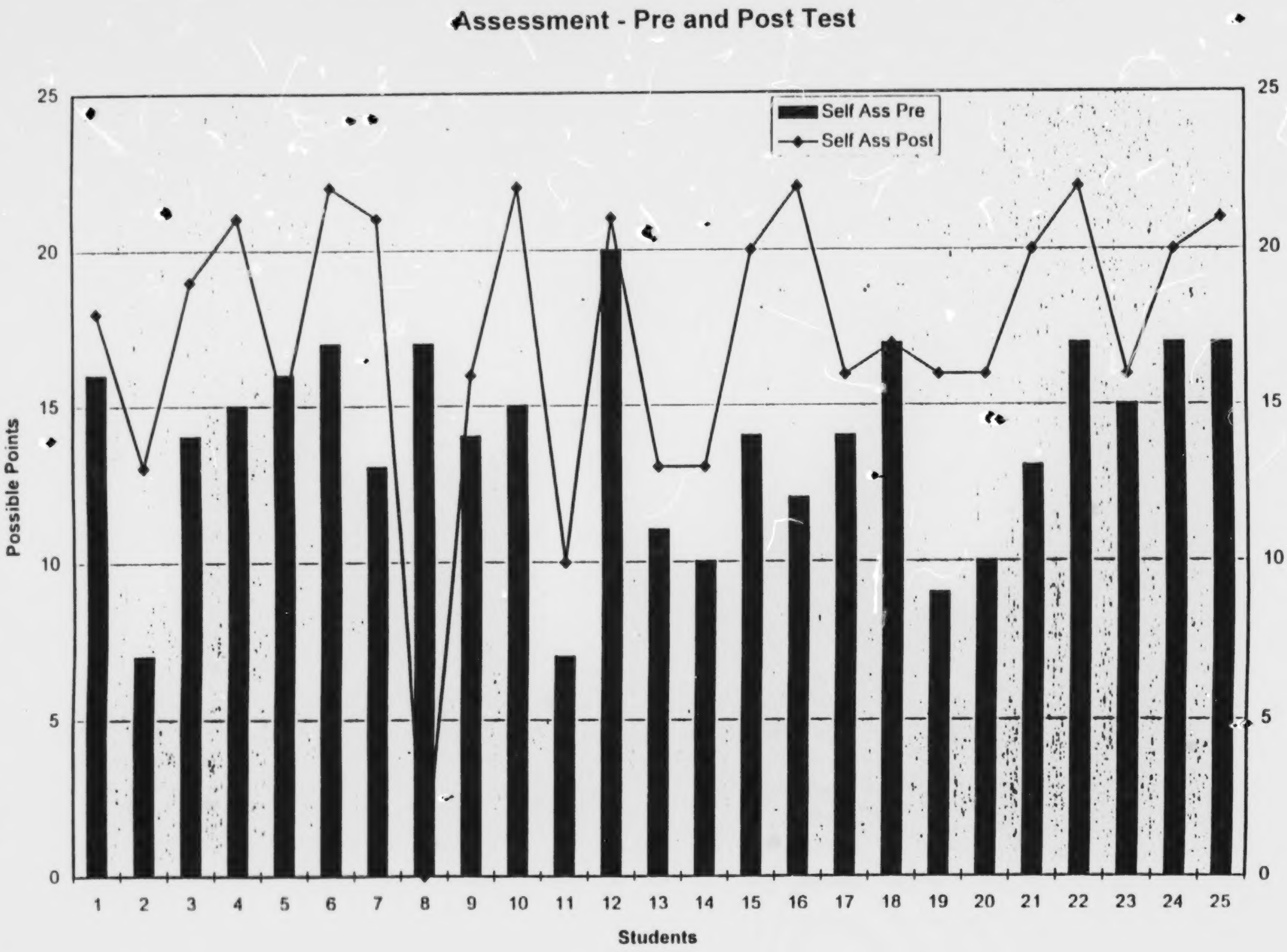
Assessment - Pre and Post Test
Self Ass Pre
Self Ass Post
Possible Points
Students
25
20
15
10
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Just-In-Time English

JobLink to 3M Unitek

January 28, 1998

What is Just-In-Time English?

To harness the power of new technologies for the direct labor employee, Joblink designed and beta tested a comprehensive, multimodal, on-line distance learning system at 3M Unitek with seven selected employees. The goal of the 12-week program was to distance deliver a customized program that would help an employee develop the communication and teamwork skills needed to advance in the workplace.

Employees worked on-site for two hours a week accessing lessons in Just-In-Time English on-line and then did an additional two hours of off-line work at home. Employees completed audio taped lessons in *How to Write for Everyday Living, Building Reading and Listening Comprehension* and a series of books and tapes from New Reader Press, *The Sundown Series*.

Employees used computers set up for them by Unitek to access their lessons, send E-mail to their instructor and participate in an on-line discussion. Students sent on the average of 40+ E-mails each, completed three surveys, conducted a number of interviews, analyzed some return on investment problems, sought win-win solutions to resolve conflict, searched the Internet to find information, discussed leadership skills with their supervisors, met with mentors, and developed a vision for their future.

What were the results?

JobLink used four measurements to evaluate each student:

Reading — A standardized reading test was given to students at the beginning and end of the program. The test used was TABE, Test of Adult Basic Education. There were 50 questions on the test and **students improved 30% in their reading skills or 1.4 grade levels.** This is well above the national average of 1.0 grade level for 100 hours of instruction.

Reading is one of the best things about the JobLink program. There were good samples and information to help improve reading skills. Unitek Distance Learning Student

Writing — A writing sample was taken at the beginning and end of the program. Each employee completed audio taped writing lessons and two or three E-mail writing assignments each week. An analysis of each student's writing was completed, measuring volume and sentence complexity. Based on the writing samples, all employees increased their writing skills. **Both word production and sentence complexity increased over 100%.**

She is at a much higher level of writing than she was prior to this course, I can ask her to write memos and she can do it with very few mistakes. Unitek Supervisor

Self Assessment — All employees rated themselves and their skills at the beginning and end of the program. There were seven areas that included reading, writing, understanding and speaking English; working on a team; using math; and solving problems. Employees rated themselves as poor, fair, good or excellent. **Every employee rated themself higher at the end of the program than they did at the beginning.**

I am very proud of myself. The last 12 weeks I had great results because I practiced, practiced and practiced. Unitek Distance Learning Student

Job Improvement — All employees and their supervisors were asked if the employee did their job better now than they did before the class. **All participants and supervisors confirmed that the employee was doing a better job after taking this class.**

What I have seen thus far has been beyond my expectations. The reaction from the employees has been incredible...the combination of progressive computer skills, individual requirements and recognition from co-workers/mentors makes the difference...Having it applied at the workplace and getting instantaneous credit are two keys that make it a success. Unitek Trainer

Where do we go from here?

Just-In-Time English is an on-line program that has now been beta tested at six manufacturing sites with over fifty employees. The results have been outstanding. All the employees have increased their basic skills and in addition improved their computer and team skills. JobLink also has a new product, Just-In-Time Communications, developed for the native speaker. And we are continuing to develop more on-line lessons for student/employees who have completed Just-In-Time English.

Unitek now has seven well-trained employees who can act as mentors or coaches for other employee/students wanting to participate in this program. In the original interest meeting held at Unitek on August 19, 1997, twenty two Unitek employees applied for the five beta test positions. JobLink accepted seven of the applicants and the additional fifteen were placed "on hold" to await the results of the beta-testers.

With the coaches and students all ready to go, it seems that Unitek has a learning organization developing on the manufacturing floor. With JobLink's able and proven assistance, Unitek is poised to bring its workforce into the 21st century.

Appendix D

Worksite Module 12
Distance Learning Orientation

APPENDIX H

Worksite Module 12: Orientation to Distance Learning

1. Before Beginning the On-Line Instruction

Before the course begins the instructor needs to meet with the Human Resource Supervisor or Trainer because it is crucial that the company understand the scope of the course and what they can expect. Moreover, the instructor needs to gather some crucial information. How are employees selected? How will employees be supported? Where are the computers? Who will provide technical support? Is the employee getting time off or is this on employee time? What are the company expectations for this class? The instructor explains the off-line kits and asks the company what they would like to include in each kit. The instructor needs to inform the trainer that the most successful students are ones who have basic computer knowledge, read at a 4.0 grade level, and understand and speak, at least some, English in the workplace.

2. Preparation of On-line Learning Environment

Prior to meeting the students, the instructor puts all their names and passwords into the TOPCLASS system. In addition, each one gets an E-mail with a personalized message. The E-mail is short so students understand the informality of this medium.

Prepare all the handouts needed.

- All pre assessment materials
- Basic directions for on-line learning
- The first module printed for each student
- Off-line kit with materials appropriate to company request

3. Completing Pre Assessments: 90 minutes

There are four assessments that will measure an employee's progress in the Just-In-Time English or Communication courses. These assessments include the following:

- A standardized test like CASAS or Test of Adult Basic Education reading comprehension test- either an E or M form

- A writing sample using a well thought out prompt (Why are you taking this course and how do you think it will help you at work, at home, or in your personal life?)
- A personal Return On Investment form
- A supervisor evaluation.

This information provided by these four assessments helps an instructor focus on and individualize the instruction for each student. In addition, it will document the progress a student during the course.

4. Doing Personal Introductions

Students like to see their instructor at least once. Rapport is built faster and easier with a face-to-face meeting. It's an opportunity for the instructor to evaluate students skills in speaking and listening. Are there any special things to consider? (In one class I noted a student had a significant hearing problem so the instructor realized she could not use the phone to communicate with him.) If a student has had no computer experience, speaks very limited English, or struggles to read simple directions the instructor can suggest some strategies to put in place before the student begins.

5. Hands-on: 90 minutes (If this is done individually, about 20 to 30 minutes per person)

We have tried a variety of ways to approach this first lesson. It is important that the student not feel too overwhelmed, so the instruction must be kept simple.

- Give all the students a simple step by step instruction sheet.
- Using a computer display (LCD panel, WebTV…) that everyone can see and go through the sign on process, having students read the steps aloud.
- Pass out copies of the first exercise- Reading 1. Walk the students through the reading and comprehension questions. Students can see the lesson on the screen and a copy in their hands.
- Do the reading comprehension quiz together. Allow different students to answer the questions. Show students how to submit and resubmit.
- Now allow students to go to their own computer station and follow the written instructions. Have them complete the vocabulary, teamwork and e-mail assignments.

- Have student read, complete a quiz, print an exercise and send an E-mail during the first session.

6. Off-line Kit: 15 minutes

These kits include audio-taped lessons from Educational Activities, books on tape from New Readers Press, and a variety of teacher designed worksheets specific to the company. A new set of materials can be distributed each four weeks before each cycle. Students are thrilled to receive materials they can do at home. Suggest that the company spend some extra money to purchase walkman, batteries, and books and tapes the employee can keep or return to the company library.

7. Keeping the Success Going

It is great if you can meet with the students every four weeks as they complete and begin a new cycle. If this is not possible, have the company sponsor conduct a short meeting, hand out the new materials and fill out a simple evaluation about the course.

8. Final Celebration

Before the final celebration the post assessment needs to be completed. Again the instructor needs to have the students complete:

- TABE reading comprehension
- Use E-mail to complete a final writing sample
- Call or E-mail supervisors to ask about the student and changes in job performance
- Student completes final personal assessment form

A short final celebration brings a real sense of accomplishment and closure to the course. Personal certificates should be made out for each student. If a student has not completed all the lessons then prepare a participation certificate for them. (Send the completion certificate when course is finished.) Prepare a final written report (2-3 pages) on the results of the Just-In-Time course. Take some time to decide where real progress can be measured. This could be different for each company. Prepare an individual report for each student emphasizing their personal accomplishments and a recommendation for continued study. Ask students, supervisor and company representatives to speak about the class from their perspective.

Appendix E

Worksite Module Sample Activities
Winning @ Work

JobLink

A National
Workplace
Literacy
Program

Worksite Training Lessons

Successful Learning Strategies

- What's Your Style?
- Better Reading to Improve Your Life
- Word Power
- It's All in Your Hand
- A Scavenger Hunt
- Troubleshooting

Activities

Third Activity: 30 Minutes

1. **Divide** students into teams of four. **Distribute** "The 5 Ws Chart" to each student and a set of colored "Who?," "What?," "Where?," "When?," and "Why?" cards.

2. **Explain** that the students will be putting together sentences. By completing this activity, students will identify and produce information that answers these 5 Ws and will fill in the blanks of the chart with the appropriate information from color cards:

   "Who?"– blue
   "What?"– orange
   "Where?"– yellow
   "When?"– green
   "Why?"– pink or red

   This color-coding will also be used in the last portion of this activity.

3. In **teams of four**, the groups should take turns using the color cards to complete 4 sentences. Each sentence will include a what, a who, a why, a where, and a when. For instance, the first participant may decide to fill in one of the "Where?" squares (using a yellow card) with an answer such as "in the cafeteria." The next may choose to fill in a "Who?" space (using a blue card) with an answer such as "My supervisor". By the end of this activity, each team member should have filled in five squares.

4. Give each student a blank set of color-coded 3x5 index cards (1 each of blue, green, yellow, orange, and pink).

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Activities

Third Activity (continued)

5. **Direct** team members to write their own sentences that include a "Who?," "What?," "Where?," "When?," and "Why?" **Tell** students to write their sentences on paper and then to put the information on the appropriate colored card:

   Blue cards should have "Who?" information (such as "The production team").

   Orange cards should have "Did what?" information (such as "packed the boxes").

   Yellow cards should have "Where?" information (such as, "in the mail room").

   Green cards should have "When?" information (such as "yesterday afternoon").

   Pink cards should have "Why?" information (such as "to finish the job").

   Notice again, that verb tense in the "What?" information must be consistent with the "When?" information; for example, "The production team packed the boxes in the mail room because they had to finish the job by 2."

6. Now have each person assemble his or her cards in a sequential order to make a good sentence.

7. If there is time, direct team members to take turns dictating their sentences to their groups. **Remind** participants to speak slowly and clearly, to listen carefully, and to ask for clarification (e.g., "Please speak more slowly," or "I didn't understand. Could you please repeat the end?"). Once each team member has dictated a sentence, the sentences should be displayed so that the other team members can check for accuracy.

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Managing the Conflict Within

Part A

1. Write about a time when you were really angry. What happened and why? How did you act/react? Was the conflict resolved? If so, how? If not, why not? What do you wish you had done differently?

2. In the company, what things are really frustrating for you or make you angry? *(Share with a partner)*

3. How does your frustration or anger affect workplace productivity?

Part B

1. How do you manage or deal with your anger, frustration, or other inner conflicts? *(Count to 100? Go for a walk? Yell at the dog? Vent to a partner? other?)*

2. What are some conflict prevention strategies you can use? How can you plan **before** the problem? How can you contain the destructive factors of a conflict?

3. What is a useful strategy or plan you can use when you get frustrated or angry?

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JobLink

A National

Workplace

Literacy

Program

Worksite Training Lessons

Resolving Conflicts

- Identifying Workplace Conflicts & Ways of Resolution
- Developing a Win-Win Attitude
- Tools for Conflict Resolution
- How to Have a Fair Fight
- Managing the Conflicts Within
- Conflicts: Heading'em Off at the Pass

Activities

First Activity: 20 Minutes

(H-24, T-24)
Handout
Transparency

1. **Distribute** and **project** "Managing the Conflict Within".
2. **Ask** employees to answer question A1.
3. **Tell** employees to pair off with a partner. **Ask** each pair to discuss A2.
4. **Ask** employees *as a class* to respond to A3.
5. **Ask** employees *as individuals* to answer B1. Then **ask** them *as a class* to share some answers to B1. **Write** their answers on the board. Encourage employees to add any helpful ways to their own list.
6. **Ask** partners to discuss B2, and **write** their answers on the board.
7. **Ask** the class to share their ideas from B2, and write those ideas on the board. **Encourage** employees to expand their lists based on what they hear from others.
8. **Ask** individuals to complete B3 and then to share their plans/strategies with their partners.

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Organize the Details: Stress Balls at EPGC

Directions: After you read the "Model Problem," work with your team to fill in the information below:

A. List all the people mentioned in the "Model Problem" and the jobs they do.
(Hint: One person is not mentioned by name.)

	Person	Job
1.		
2.		
3.		
4.		
5.		
6.		
7.		

B. What are the steps in making Stress Balls?

1 ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______
9. ______

C. What machine is used to make Stress Balls? ______

D. What materials are used to make Stress Balls?
1. ______ 2. ______

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E. What are the customer complaints about Stress Balls?
1. ______ 3. ______
2. ______ 4. ______

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Model Problem: Stress Balls at EPGC

Employee Module

Welcome to the Expert Puzzle and Game Corporation (EPGC)! EPGC is in northern Maine. It produces games and puzzles. EPGC distributes its puzzles and games in the United States. The company produces quality products.

There are product developers at EPGC. They take pride in their work. They design games and puzzles. They make money by inventing new games and puzzles for their company to produce.

Candace and Rick are two product developers. They think up new games and puzzles. They try out their ideas on each other. They are always competing with each other. They like to see whose ideas will make the most money for their company. They each try to come up with as many new ideas as possible.

EPGC has a warehouse. Employees in Receiving check the material and parts that come into the plant. The warehouse stores all these materials and parts. It is separate from the main building.

Employees carry the material and parts that they need for production from the warehouse to the main building. Joe is the employee who goes to the warehouse for materials and parts. He brings them to the main building. During the winter, he often has to put on boots and a heavy coat to go over to the warehouse.

This is an assembly line that produces word games. Inspectors check the games when they come off the assembly line. Marta is in charge of quality control. She is very good at finding defects.

Packers pack the games into boxes. Other employees move them to the warehouse.

In the warehouse, forklifts carry tall stacks of games. The puzzles and games are not breakable. Forklift operators can stack the games very high. Emily and Anthony are two of the forklift operators in the warehouse.

Six months ago, EPGC designed a new product. It quickly became very popular and profitable. The new product is the Stress Ball. Unlike the other EPGC products, the Stress Ball is not a puzzle or a game. Its assembly is very simple. Four people work one day a week to produce enough Stress Balls to meet EPGC's weekly quota.

(continued on back)

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JobLink

A National

Workplace

Literacy

Program

Worksite Training Lessons

Problem-Solving

- ▼ There's No Business Like Everybody's Business
- ▼ What's Going On Here?
- ▼ Something's Fishy
- ▼ What Needs to be Fixed
- ▼ Let's Fix It!
- ▼ Welcome to the Real World!

Activities

Second Activity: 35 Minutes

(H-3) Handout

1. **Distribute** "Model Problem: Stress Balls at EPGC".

(H-4) Handout

2. **Distribute** "Organize the Details", **project** it, and **review** it section by section in an effort to prepare teams for the reading selection.

(T-3) Transparency

3. **Project** the "Model Problem" on the overhead.
4. **Play** the "Model Problem" audiotape, if available, or read the account slowly. If available, **show** slides or transparencies depicting the action in the account, showing the characters, and demonstrating the process of making Stress Balls. **Pass around** sample Stress Balls, if available.
5. **Ask** teams to silently reread the handouts of "Model Problem: Stress Balls at EPGC" while the account remains projected on the overhead.
6. **Assist** team members with vocabulary and help them comprehend details, if necessary.
7. **Remind** team members that they will identify the important details of this story in the next lesson.

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Case Study
Return on Investment

You work in a manufacturing company. You operate a machine that shapes small pieces of plastic. The machine automatically bags the pieces correctly by number and then seals the bags.

When each bag is full, it falls into a bin. When the bin is full, you have to stop the machine and empty the bin into a bigger bin in the front of the room. After you empty the bin, you must start the machine and begin again. This takes about 5 minutes.

Recently the engineers in your company fixed the machines in your area so they would produce more parts than before. You are spending more and more time emptying out the bins. In fact, you have been emptying the bins at least 10 times a day.

Right now you are making about 120 bags an hour. You think that if you had bigger bins, your productivity would be higher because you wouldn't be spending so much time emptying the bins. You want to make this suggestion to your supervisor.

1. How much time do you spend each day emptying the bins? (10 empties a day x 5 minutes for each)

2. If you had to empty the bins only 5 times a day, how much time would you save? (10 x 5) - (5 x 5)

3. If you had to empty the bins only 5 times a day, how many more bags could you produce in one day?

4. How many more bags could you produce in one year if you worked 250 days?

5. If there are 5 people in your department and you all produce about the same number of bags, how many more bags could your department produce in one year?

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Worksite Training Lessons

Making Suggestions

- Looking for Better Ways of Doing Things
- Getting the Information You Need
- The Importance of Planning
- Designing Clear and Concise Messages
- Putting Ideas on Paper: Preparing Presentations
- Selling Your Ideas

Activities

Third Activity: 20 Minutes

1. **Explain** that now we can support our suggestions with information. We know whom we are making our suggestion to, and we know how to make the information important to our audience.

2. **Ask,** "Usually, what is the number-one thing that management wants to know?" (*Answers:* "How much does it cost?" Even better, "How much will it save *me*?" or "…save *the department*?" or…"save *the company*?")

3. **Ask,** "How can you compute these costs or savings?"

4. **Distribute** "Case Study: Return on Investment" and the calculators.

5. **Form** groups of 3 or 4 to complete this activity. (If students have low-level math skills, **treat** this activity as a group exercise.) **Explain,** "This is just one way to figure out how much money your suggestions could save." Complete the activity.

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▼ Activities

▼ Third Activity: (continued)

6. **Ask,** "How many more bags could you produce in one day if you had bigger bins?"

7. **Ask,** "Is this a lot? What happened to the number when we figured it out for the whole year and for the whole department?"

8. **Say,** "Sometimes a little thing can make a big difference!"

9. **Ask,** "What other things would be considered a return on investment but not necessarily cost savings?" (*Possible answers:* reduced accidents, increased morale, better working conditions, improved service, etc.)

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Why Don't You Listen to Me?

1. What are some barriers that keep us from listening effectively?

2. What are some warning signs that listening barriers are present?

3. What are some things we can do to overcome listening barriers?

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Worksite Training Lessons

Active Listening and Feedback

- Assessing Your Listening Style
- Letting the Other Person Know You Understand
- Overcoming Barriers to Understanding
- Giving Feedback
- Being Specific
- Pulling It All Together

Activities

Third Activity: 30 Minutes

1. **Divide** the class into groups of 3 or 4. **Distribute** "Why Don't You Listen to Me?".

2. **Explain** that you will give each group one question and will allow 10 to 15 minutes to come up with 5 answers to that question. **Tell** the group to choose a spokesperson to read the answers to the class afterward.

3. Now **assign** *one* of the following questions to each group to **discuss:**

   Q1: "What are some barriers that keep us from listening effectively?"

   Q2: "What are some warning signs that listening barriers are present?"

   Q3: "What are some things we can do to overcome listening barriers?"

4. **Walk around** the class to help. After the groups finish, **reassemble** the class. **Ask** each spokesperson to present his or her group's answers. **Recommend** that students use their worksheets to write the answers they hear from other groups.

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Activities

Third Activity: (continued)

Note: Be prepared to lead the discussion to include the following answers–just in case the spokespersons do not.

Q1: "What are some barriers that keep us from listening effectively?"

- Thinking about what we are going to say next.
- Jumping to conclusions.
- Wanting to give advice or "rescue the speaker."
- Feeling bored or impatient.
- Filtering out what we don't want to hear.
- Doing something else instead of listening.

Q2: "What are some warning signs that listening barriers are present?"

- We catch ourselves thinking about something else.
- We are formulating answers in our head instead of listening.
- We are working on something else while we are trying to listen.
- We are interrupting the speaker by finishing his or her sentences.
- We stop listening because we assume we know what the listener is going to say.
- We are pretending to listening, but we really are not.

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▼ *Activities*

▼ Third Activity: (continued)

Q3: "What are some things we can do to overcome listening barriers?"

- Make eye contact.
- Ask questions.
- Restate what we hear.
- Stop doing what we are doing.
- Stop interrupting the speaker.
- Apply the techniques we used in this class.
- Listen to what is being said, not what we think is being said.

3. *Optional:* **Discuss** cultural barriers. **Ask:** "In what ways might being from another culture cause barriers in listening? Can you use any tips from the last exercise to overcome those barriers? What other techniques can you use?"

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Pass The Picture Questions

1. Where is this team working? Using complete sentences, name the city, state, or country.

2. What job is this team doing?

3. Who is the leader of this team?

4. Do the members of this team like each other? How can you tell?

5. What is this team's secret problem? What is its secret joy?

6. What will this team be doing in the future?

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Worksite Training Lessons

Communicating on the High Performance Team

- What's My Line?
- Teambuilding
- Who's Who
- Tell Me a Story
- Body Language
- Pass the Picture

▼ Activities

▼ First Activity: 45 minutes

1. **Display** a picture of a team *(preferably, not a picture that will be used later in the activity).*

2. **Ask** simple questions that will generate students' interest in the team picture and will encourage creative, descriptive responses. *For example:*

   "What do you think these team members are doing?"
   "Where do you think this team is working? What city? state? country?"
   "What kind of company does this team work for?"

3. **Explain** that in today's activity, they will answer similar questions about different pictures.

4. Group participants into teams of 6.

   Note: *Before class begins, check whether 6-member teams will indeed work; if not, determine another workable arrangement. In any case, be sure to have a plan beforehand!*

5. **Distribute** to each group one set of pictures, each of which has a blank piece of notebook paper attached. Now every student has a photo with a clipped sheet of notebook paper.

6. **Invite** students to study their pictures for a minute. Then **ask** them to turn their pictures facedown and to write "#1" on the notebook paper.

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Activities

First Activity (continued)

[illegible] Transparency

7. **Project** "Pass the Picture Questions" on the overhead so that *only question 1 is displayed.* Read question 1 aloud and **ask** participants to write their answers next to "#1" on their notebook papers. **Encourage** them to write complete sentences as they identify the locale *(city, state, country)* of this picture.

8. **Lead** participants through the next step: "Now pass your picture–*with your notebook paper still attached*–to the person on your right. From the person on your left, take a new picture with the notebook paper attached."

9. **Instruct** participants to look at their new pictures and to read the notebook sheet. Then **project** question 2 on the overhead, and read the question aloud. Now say: "Please answer question 2 in one or two short sentences, just as you did for question 1." Allow time for students to write before proceeding to the next step.

10. **Instruct** the teams as follows: "Once you've finished, please pass your picture *and* your paper to the person on your right. And please *take* a new picture and paper from the person on your *left.*"

11. **Continue** this procedure until all six questions are answered. Now each person in the group has answered one question about each picture.

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Activities

First Activity (continued)

12. **Explain** how each team will now *evaluate* the stories and pictures:
    a. Each student will read aloud the story he or she is now holding.
    b. When all six stories have been read, the team will decide which picture and story they like best–this is the "team story," the one they will share with the entire class.
    c. As a team, they will create a title for their team story and include each team member's name as a co-author.

13. **Ask** the group to choose a "secretary" to copy the team story, and instruct the secretary to correct any errors.

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The 5 Ws Chart

Who?	What? (a verb-action)	Where?	When?	Why?

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APPENDIX E

Appendix F

NWLIS Forms

LEARNER ENROLLMENT FORM

Instructor__________________
Class Schedule______________
Module_____________________

Your instructor will complete these questions

A. Course Number ______________
Site Location ______________

B. Who completed this form? (MARK ONE BOX)

- ☐ The learner
- ☐ The learner, with assistance from instructor or project staff
- ☐ An instructor or project staff member with information provided by the learner
- ☐ Other (Please specify)
  ____

C. Date form completed: ___/___/___

1. *Name:* ______________________________

2. *Address:* ______________________________
____

3. *Phone Number:* (   ) ______________

4. *Social Security Number:*
________-______-________

5. *Age:* ______

6. *Were you born in the United States?*
☐ Yes   ☐ No

7. *Sex:* ☐ Male   ☐ Female

8. *Race:* (MARK ONE BOX)
- ☐ White
- ☐ Black (African American)
- ☐ Asian or Pacific Islander
- ☐ American Indian or Alaskan Native
- ☐ Hispanic
- ☐ Other (Please specify):
  ____

9. *Is English the language that is spoken most often in your home?*

☐ Yes   ☐ No

10. *How many years of school have you completed?* (Mark one box in both columns)

In the United States:	In any other country:
☐ No schooling	☐ No schooling
☐ 1-5 years	☐ 1-5 years
☐ 6-8 years	☐ 6-8 years
☐ 9 years	☐ 9 years
☐ 10 years	☐ 10 years
☐ 11 years	☐ 11 years
☐ 12 or more years	☐ 12 or more years

11. *Are you a union member?*

☐ Yes -- What is the name of your union?
____

☐ No

12. ***Please rate your ability to perform each of the following activities.***
(Please mark one response for every activity)

	Poor	Fair	Good	Excellent
Read English	☐	☐	☐	☐
Understand English	☐	☐	☐	☐
Speak English	☐	☐	☐	☐
Write in English	☐	☐	☐	☐
Work as part of a team	☐	☐	☐	☐
Use math	☐	☐	☐	☐
Solve problems/use reasoning	☐	☐	☐	☐

13. ***Do you have a job ?***
- ☐ Yes, employed
- ☐ Yes, on temporary layoff

→ **GO TO NEXT PAGE**

- ☐ No, retired
- ☐ No, not employed

→ **STOP**

Thank you. You have completed this form. Please return it to your instructor.

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Please answer questions 14-18 for the job that allows you to take this course.

14. Name of company or employer:

____

15. Job title:

____

16. On average, how many hours per week do you work on this job?

____-____ Hours per week

17. How much do you earn at this job?
(Write amount and mark one box)

$__________ ☐ Per hour ☐ Per year

18. Do you get any of the following benefits at this job?
(Mark one for each line)

	Yes	No
Paid vacation	☐	☐
Paid sick leave	☐	☐
Paid holidays	☐	☐
Health insurance	☐	☐

19. How long have you worked at this job?

____-____ and ____-____
years months

20. At your job do you need to do any of the following?
(Mark one for each line)

	Yes	No
Read instructions	☐	☐
Receive spoken instructions in English	☐	☐
Speak English	☐	☐
Work as part of a team	☐	☐
Write in English	☐	☐
Use math	☐	☐
Solve problems/use reasoning	☐	☐

21. Do you work at more than one job?

☐ Yes
☐ No

Thank you. You have completed this form. Please return it to your instructor.

LEARNER ASSESSMENT FORM

Appendix F

Your instructor will complete these questions

A. Course Number ____________

Site Location ____________

Instructor ______________________

Class Schedule ______________________

Module ______________________

B. Who completed this form? **(MARK ONE BOX)**

- ☐ The learner
- ☐ The learner, with assistance from instructor or project staff
- ☐ An instructor or project staff member with information provided by the learner
- ☐ Other (Please specify)

____

C. Date form completed: ___/___/___

1. *Name:* ______________________

2. *Address:* ______________________

____

3. *Phone Number:* (   ) ____________

4. *Social Security Number:*

________-______-________

5. *In the future, do you plan to take any of the following courses?*

(Mark one for each line)

	Plan to Take	Do Not Plan to Take
A basic skills course in reading, writing, or math	☐	☐
A course in using English (such as ESL)	☐	☐
A computer course	☐	☐
A GED course or the GED exam	☐	☐
Courses to get an occupational certificate	☐	☐
A job training course	☐	☐
Courses leading to a 2-year or 4-year college degree	☐	☐
A home-study course	☐	☐

6. ***Since this course began, have you:***

(Mark one for each line)

	YES	NO
Learned what you wanted to learn in this course?	☐	☐
Changed your educational or career goals?	☐	☐
Had more responsibility added to your job?	☐	☐
Moved to a shift you prefer?	☐	☐
Switched from part-time to full-time?	☐	☐
Received a pay raise?	☐	☐
Been promoted?	☐	☐
Received an award, bonus, or other special recognition on your job?	☐	☐
Received your GED?	☐	☐
Applied for a new job?	☐	☐
Started a new job at another company?	☐	☐
Been laid off?	☐	☐
Left your job for any other reason? (Please Specify)	☐	☐

7. ***Please rate your ability to perform each of the following activities.***

(Please mark one response for every activity)

	Poor	**Fair**	**Good**	**Excellent**
Read English	☐	☐	☐	☐
Understand English	☐	☐	☐	☐
Speak English	☐	☐	☐	☐
Write in English	☐	☐	☐	☐
Work as part of a team	☐	☐	☐	☐
Use math	☐	☐	☐	☐
Solve problems/use reasoning	☐	☐	☐	☐

Thank you. You have completed this form. Please return it to your instructor.

Appendix G

Student Newsletters

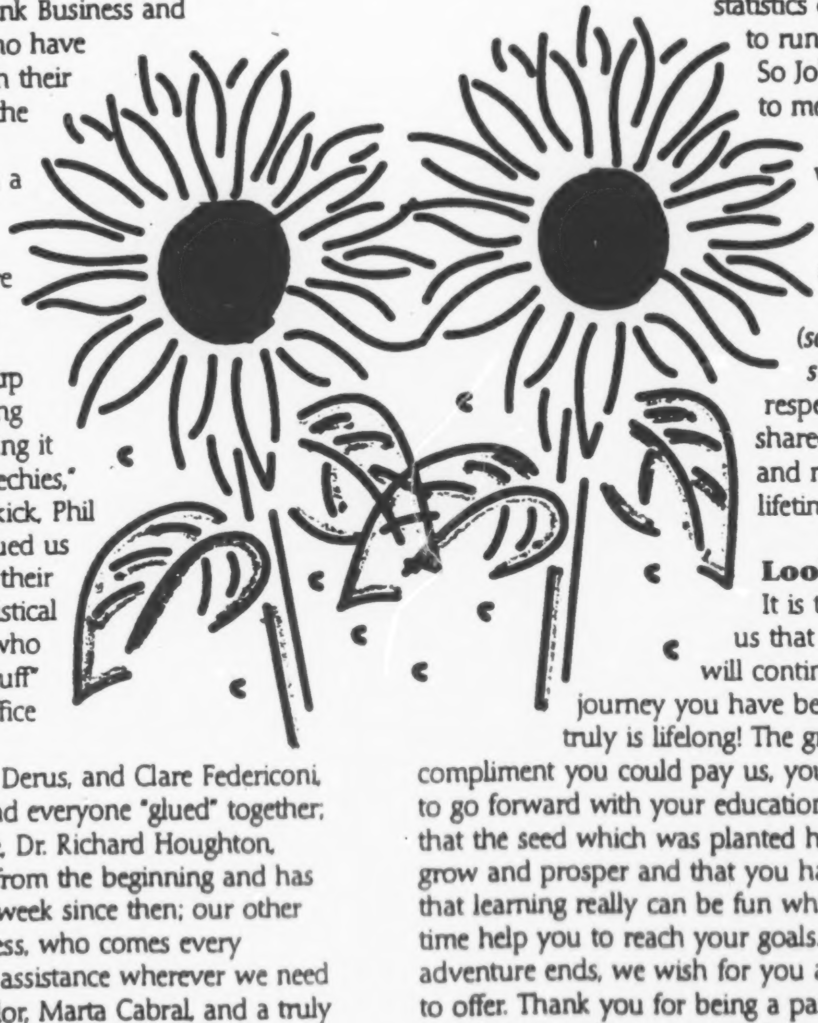
JobLink Letter June '97

National Workplace Literacy Project • Written by JobLink Students and Staff

What JobLink Has Meant To Me

by Marty Holler
Instructor

Looking Back - This experience has been a great adventure! When we all came aboard, we really didn't know what to expect, and it's been a real joy to watch this project unfold, develop, and come to fruition. As with all successful ventures, the success which the JobLink Lab has enjoyed is due to the efforts of many. We've had a fabulous team: the JobLink Business and Educational Partners, who have shown interest and given their time and knowledge to the project; Director, Karen Klammer, who has been a stant source of couragement and a believer in what we were doing; Lab Coordinator, Chris Pitchess, who has done it all from setting up the original lab, supplying daily "snacks," and making it all come together; the "techies," Tony Salas and his sidekick, Phil Blandin, who have rescued us hundreds of times with their computer expertise; statistical expert, Jorge Ascencio, who keeps track of lots of "stuff" on the computer; the office staff, Marta Dickinson, Linda Mosbrook, Carol Derus, and Clare Federiconi, who keep everything and everyone "glued" together; volunteer extraordinaire, Dr. Richard Houghton, who has been with us from the beginning and has faithfully come twice a week since then; our other unteer, Athena Pitchess, who comes every ednesday to lend her assistance wherever we need it; a very caring counselor, Marta Cabral, and a truly wonderful group of instructors, George Baum, Peg Donner, and Barbara Gibson, who have shared their knowledge and themselves with one another and our students; and last but certainly not least, our invaluable aides, Leticia Arroyo, Loan Nguyen, Dong Mai, Thuan Nguyen, Raye Guillemette, and Marcela Somers, who have been our right arms and have done everything from keeping lab statistics on the computer to running off papers. So JobLink has meant to me, and I suspect to everyone else who has been involved in this unique project, a constant learning process *(sometimes a stretch!)*, new and respected friends, shared experiences, and memories to last a lifetime.



Looking Ahead - It is the hope of all of us that you, the students, will continue with the journey you have begun. Learning truly is lifelong! The greatest compliment you could pay us, your instructors, is to go forward with your education. Our hope is that the seed which was planted here at JobLink will grow and prosper and that you have discovered that learning really can be fun while at the same time help you to reach your goals. And so as this adventure ends, we wish for you all the best life has to offer. Thank you for being a part of our lives and for all the good times we've shared together.

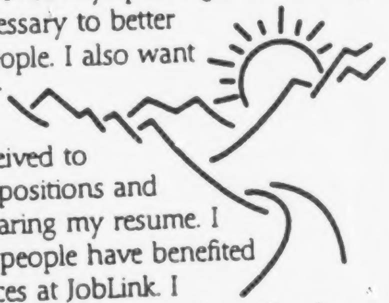
Excited About Learning

by Hortencia Jimenez
Mallinckrodt

I love learning, and I'm excited about it. It makes me feel so good. When I first started to learn English, it looked impossible. Now I remember my mistakes, and I can see how much I learned from them. Lots of things have changed in my life. Sometimes you do not even notice how much you have learned; but when you realize it, you can see that you have walked a long way. I feel that I'm learning very slowly and step by step, and it is hard for me to do it. But suddenly something changes in my life and makes me feel so proud because my effort and my constant work show up. I know that learning English is not a cinch, and I need to work hard to improve it. I'm sad about JobLink closing its years, and I want to thank Mallinckrodt for this opportunity and give very special thanks to our wonderful teacher. She is the person that with her efforts helped us to learn and understand what we know now. We will miss you a lot. Thanks!

New Horizons

by Juan Marquez



JobLink has been to me like an open road that has led me to reach new horizons. Thanks to JobLink, I have improved my speaking and listening skills, which are necessary to better understand other people. I also want to thank JobLink for the orientation and guidance I have received to help me find better positions and for the help in preparing my resume. I am sure that many people have benefited from their experiences at JobLink. I pe to continue my education at other schools nd also to learn other skills related to computer programs.

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Ideal Environment

by Estela Zabala
Mobil Gas Station

The first time I came to the JobLink Lab, I met an incredible and friendly staff. I've never found people who enjoy teaching so much. They make my learning experience easy because they are so approachable. They also give me the opportunity to improve my communication skills through the conversation program. Now I feel capable of speaking, talking, and maintaining a dialogue with almost everyone. That's really important to me. When I started working at the gas station, my co-workers did not show me the proper respect. They thought of me as a piece of meat because I didn't speak or understand English. They thought I was good only for clean-up jobs and other manual duties. This was frustrating, and I cannot tell you what I felt; it really depressed me. But now I get the appreciation I deserve, and I am proud of it. It is so sad that our school will close soon. The teachers and classmates are wonderful. It is an ideal environment in which to learn and have fun at the same time.

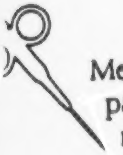
Encourage One Another

by Antonio Dedaro
McGaw

I have been attending JobLink for one month. During that month, I have met many good people, especially good teachers. They help us in every way if we need them. We have a good conversation every day, and the teacher explains every single word which we don't understand. I learn math which helps me at my work, at home, and whenever I need it. I also work on reading which helps my vocabulary, my grammar, and my spelling. As of now, I have not reached my goal of learning computers. At JobLink, I can encourage some other people who do not have a high school education.

My Wish Is To Help

by Consudo Canto
Volunteer

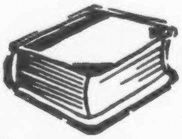


For 27 years I worked as a nurse in Mexico, and for 13 of those years I was part of a cardiac operating team. A few months after my arrival in the United States seven years ago, I offered to lunteer at an elementary school in Tustin. Because my difficulty in speaking English, I was not cepted. However, my husband and I became lunteers at Western Medical Center in Santa Ana. ere someone mentioned JobLink to me, and I arted attending. With the knowledge I acquired at bLink, I was able, within a few months, to help ople who, otherwise, I would not have been able help. I feel that the system of reading, writing, d working on the computer programs combined ith the teachers' constant personal attention has elped me a lot. Now I am able to understand and [illegible] unicate with people who come into the gency Room and speak only English as well as h those who cannot explain their medical mergency in English.

I believe that our community is gaining a reat benefit from the efforts of JobLink and its achers. It makes me very sad to know that this chool is going to be closed, and I wish that this rogram would be expanded instead of eliminated.

My JobLink School

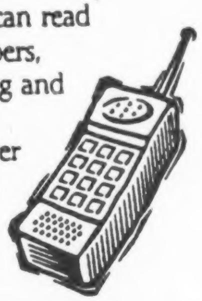
by Mercedes Orellana
Mallinckrodt



I have heard with deep sorrow of the loss you have. I know very soon this place won't exist anymore, but I will keep in my heart all my experiences and my good times I had when I went there. I am very glad with the progress I have [illegible] in the study of English. I have learned more [illegible]ds, and I can talk with my coordinator and my [illegible]nds. I would like to take advantage of this opportunity to thank Mallinckrodt in advance for this good action to us. Teachers, maybe we won't see you any more, but I will remember you forever.

More Prepared

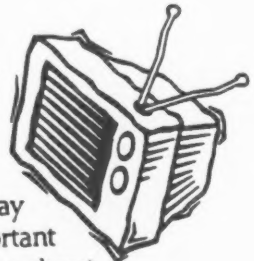
by Gabriel Martinez
LTCC National Semiconductor



Since I started coming to JobLink to learn more English, I feel like I can achieve something better in my life. I feel more prepared to do more in my life. My advancement is very good. Now I have a nice job. I can read anything in the media (newspapers, magazines, etc.) and my speaking and writing skills are okay. I can tell that I can do my job much better because my last job, which was in packing, was very physical. My present job is not like the previous one. Now my job requires technical skills; I inspect chips for cellular phones and beepers. The teachers in the lab are very friendly with the students, and I appreciate their collaboration. Thanks teachers for helping me.

A Great Deal!

by Gerardo Parra
McGaw



When I didn't know about JobLink, everything every day was so sad. I just went to work and back to my house, looking at TV every day, doing the same thing day after day. There was nothing important to do. One day my friend asked me about trying something new to learn. I answered him that it sounded okay; I would like to try it. I came to the Lab and filled out an application. I was starting something new. The first day I felt so shy because I didn't know anybody. Since then, I have felt very comfortable because I had found a place to learn. I was learning English and at the same time getting ready for the test for McGaw. I was starting a project to know more and more. That was amazing because finally I had found what I was looking for. I got a new job (permanent), improved my English, learned computers, and made new friends. In other words, I found "a great deal" at JobLink.

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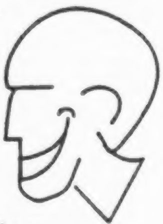
Friendly People

by Jennifer Costa



I found out about JobLink because someone t 11th Hour sent me there when failed the tests I need to pass o be able to work at Steelcase. When I started at JobLink, I iked it right away because of he friendly people who work here. I think I'm doing pretty good for being there only three days. Hopefully, I can finish up what I need to do as there are only 30 more days before JobLink closes. I want to improve my skills enough to pass the tests, so that I will be able to start a good future for me and my family. I feel that if I could achieve that, my experience at JobLink will have been a good one.

The Best School

by Jorge Jimenez

McGaw

The first day I came to school, I was surprised because this school is not like any other school. This school is the best school I have ever been to; I have learned a lot. I don't know if I can find another school like the JobLink Lab. It's going to hurt a lot if this school ends. This school was exactly on my way home, and I could stay as long as I wanted to. I could work on whatever I wanted to learn: computers, writing, reading, books on tape, or E-mail. There are also excellent teachers: my buddy, George, Marta, Marty, and Leticia. Oh, I'm forgetting Loan and Paul who are great teachers, too. Also, I'm happy here at the JobLink Lab. I like everything at JobLink including the coffee, cookies, chocolates, and other ets. This school also has paper, a copy machine, ncils, a VCR, and other materials and equipment may be forgetting something, but I'm going to miss you, JobLink.

Read Work Orders Better

by Jose Tovar

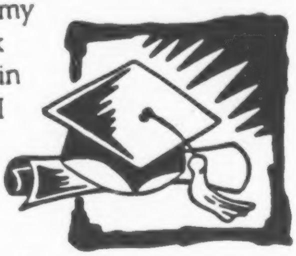
Fiberite

JobLink has helped me recall everything I thought I had forgotten! I have learned many new things also, especially reading and writing. At my job I have better communication with people. I don't need to ask as many questions because I can read my work orders better. Thanks to JobLink, I will always be learning!

A Good Education

by Kay Pravong

3M CDI



My name is Kay, and I work at 3M CDI Health Care. After work, I go to study at the JobLink Lab. Now when I go to work, I can talk with my co-workers and read, write, and do the paperwork. I feel comfortable because my English is better than before. At home I can help my children do their homework and understand statements in their textbooks. At JobLink I learn how to use a computer, and I learn more about vocabulary and math. I can also have conversation in English. I really enjoy the stories in the books there; they help me understand about American culture and the many laws in the United States. When I study at the JobLink Lab, I feel good and comfortable. All the teachers give the students a good education and help every one with any problems that they have with learning.

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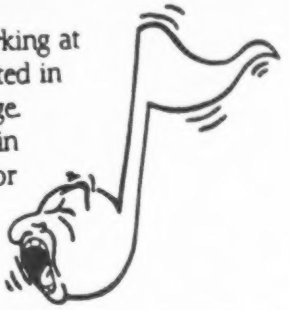
English As A Language

by Luz Marquez



Because I am not working at present time, I am interested in dying English as a language. Link has helped me a lot in rning grammar, the base for rectly writing and eaking the English guage. Also JobLink has lped me by providing oks with tapes which, I think, are a great way for creasing my vocabulary and comprehension skills.

Please Help Us!

by Luz Rojas
Sorin

I heard about JobLink from one of my co- rs, and I started coming because I wanted to m English: pronunciation, writing, reading, elling, and verbs. I also wanted to learn omputers. I usually come after work, and I have earned a lot. Right now, I speak a little more than efore, and I'm happy because I have more ommunication with my friends and I understand vhen people talk to me. I am feeling very sad now ecause we are not going to have obLink anymore. We need your support. We need the teachers. Please help us; we really need your help. To whom it concerns, please listen to us. Helping us with this program is very important to us because we live in this country. We love this country; we are part of this country, and we want to speak English, the native language. We appreciate what you have done for us. Please keep JobLink open; we need it. Help us please, and thank you.

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Important To Me

by Manuel Betancourt
McGaw

The JobLink Lab is very important to me because I have learned a lot and experienced success there. I learned how to read better than before; now I can understand when I'm reading a story. And I can communicate with others, too. I give thanks to JobLink and all the teachers who helped me. They are great and helpful teachers. And I would like the JobLink Lab to be kept open longer. Thank you very much; I appreciate your support.

Give Back

by Maria Cordova
Mallinckrodt

DID YOU KNOW...

Education makes a nation strong and wealthy, so we must continue to learn and improve ourselves. JobLink is helping me to make my self-esteem grow. Also now I can express myself much better and more accurately. Since I have been at JobLink, my supervisor has had more confidence in me and my work. I wish we could have more JobLink exposure at Mallinckrodt, so our workers could have more opportunities to learn. Then we could give back more of what JobLink and Mallinckrodt have given to us. I would like to thank Mallinckrodt and JobLink, and I would also like to include Dick Nye.

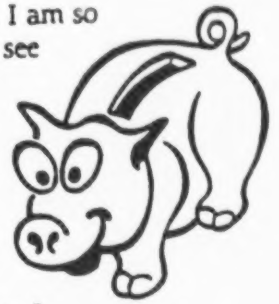
Everyday Life

by Marina Diaz
Mallinckrodt

I work at Mallinckrodt, and I have worked for 7 months at this job. I started coming to JobLink in September of '96 because I needed to learn to speak English. I found that everyone there helped me to learn things that I needed for my everyday life. I hope to find a place like JobLink to be able to continue learning and better myself for the future.

I Am So Lucky!

by Mun Cha Kim
Mallinckrodt



I come to JobLink. I am so cky because I meet and see ce people. The teachers ave made me feel open id helped me to see itside of myself, to ave a vision. I have a ood time learning the omputer programs and iking tests on them. When I peak English, I feel good. I don't speak very much et, but I can speak English to everybody at bLink; and that is why I like to come to JobLink. I don't understand some words, sentences, or rammar, I don't worry because I can ask the eachers; and one of them will always help me. hanks very much for teaching me to speak English g this time.

"Mom, You Speak Better Than Before!"

by Norma Corrales

I remember, when I started in this school, I felt embarrassed about my speaking. I tried to have a conversation with other people, but my language wasn't clear. Now I feel more confident when I speak with another person, especially when I speak with my little son. He told me, "Mom, you speak better than before." It is true! I can read, write, and speak more. Now I want to improve even more. I want to learn to use the computer because I want to have the best job and provide a good opportunity in my future for my children.

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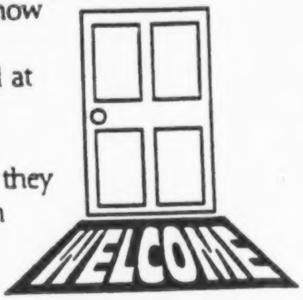
Learning Opens Doors

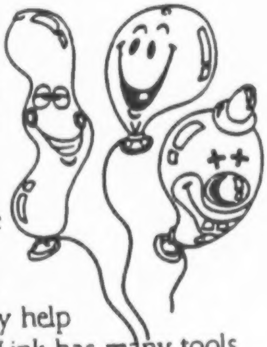
by Ana Patricia Ramirez
McGaw



For me and my family JobLink has meant many things. I have learned a lot of English, and now I can use a computer. I am able to carry on a better conversation on the phone, and it surprises my children and husband how much I am able to speak. Another thing that changed at home is that now I can understand everything my children talk about. Before, they would talk in English when they did not want me to know what they were saying, and now I understand almost everything they say. I feel bad that JobLink is closing its doors because, if people continue going to school, they have a better chance of doors opening for them and having a better future. I would like to continue going to school to better myself. Here at JobLink, we had a great team of teachers and great programs.

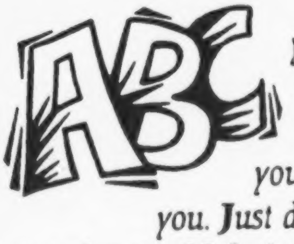
A Nice Surprise

by Ramon Murillo
McGaw



The first time I came to JobLink I was thinking that it was going to be boring, like the other schools with one teacher for thirty or forty students working on the same thing at the same time. But I was surprised, very surprised. JobLink has nice teachers; they help us with all our problems. JobLink has many tools (computers, tables, chairs, good programs, and good people) to help everyone be a specialist in all different areas. I try to learn everything I can from them, and all that I can say is, "Thanks, JobLink!"

To Achieve Your Dreams Remember Your ABC's



__A__void negative sources, people, places, things and habits. __B__elieve in yourself. __C__onsider things from every angle. __D__on't give up, and don't give in. __E__njoy life today; yesterday is gone and tomorrow may never come. __F__amily and friends are hidden treasures–seek them and enjoy their riches. __G__ive more than you planned to give. __H__ang onto your dreams. __I__gnore those who try to discourage you. __J__ust do it? __K__eep on trying no matter how hard it seems; it will get easier. __L__ove yourself irst and most. __M__ake it happen. __N__ever lie, cheat or steal–always strike a fair deal. __O__pen your eyes and see hings as they really are. __P__ractice makes perfect. __Q__uitters never win and winners never quit. __R__ead, study nd learn about everything important in your life. __S__top procrastinating. __T__ake control of your own estiny. __U__nderstand yourself in order to better understand others. __V__isualize it. __W__ant it more than nything. __X__ccelerate your efforts. __Y__ou are unique creation–nothing can replace you. __Z__ero in on your arget and go for it!

Author Unknown

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JobLink Letter Jan/Feb '97

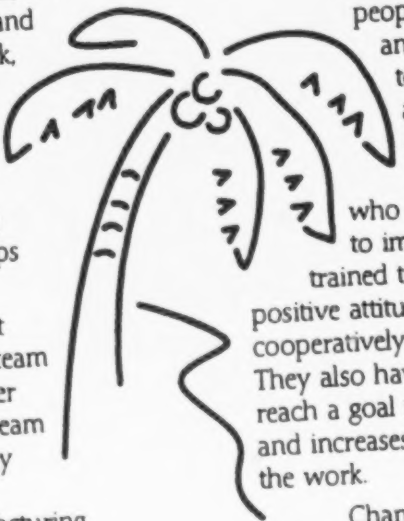
National Workplace Literacy Project • Written by JobLink Students and Staff

No Man Is An Island

by Marta Cabral
Counselor and Instructor at JobLink

n life we have many examples of successful teamwork. We cheer the baseball team whose members work like a well-oiled machine to xecute a winning play. At work we marvel at the eam of co-workers that consistently meets production or marketing goals. However, we also experience great sadness, anxiety, and disappointment when teams don't work, such as when a family breaks up and fails to meet the basic physical and emotional needs of its members. From the baseball team and the production team to the family, we can identify what factors make these groups are successful teams.

We might ask ourselves, "What makes a particular group a team?" A team is a group of persons working together for a common purpose or goal. The team members have different roles and may share in different activities such as research, planning, marketing, manufacturing, evaluation, and problem solving. Members of the team bring their knowledge, experience, and insights to the different activities. All team members' ideas are important and valuable; and all are expected to contribute their ideas, make good decisions, and solve problems. There is no competition among team members; indeed, the success of one member is the success of all.



In order for us to be able to do any type of work, we need to have and know how to use the right tools. The tools for successful teamwork in the workplace are skills which must be learned and practiced. We need written and oral communication share our knowledge and explain our ideas. Leadership skills help us to stay on task, motivate others, and channel our team's creative energy. Listening skills are critical for learning and understanding each other's point of view and approach to solving problems. In a growing and diverse workplace environment, successful teams have learned to value the benefits of having multiple approaches that enrich the process of getting the job done.

Work habits and ways of dealing with people develop over time. It takes patience and tolerance of others to learn teamwork skills. It calls for courage and commitment from those who choose to invest their resources for training others as well as from those who decide to invest their time and energy to improve their skills. Persons who have trained to work in teams report having a more positive attitude and mindset to working cooperatively and are happier doing their work. They also have found that working cooperatively to reach a goal unifies people, builds self confidence, and increases overall productivity and knowledge of the work.

Change is the only constant in our lives. What becomes important is how we respond to those changes. Our work continues to change as business and industry implement new ideas to meet the needs of a changing world economy. These changes have an impact on what choices we make for ourselves and our families.

Things have changed drastically. Many experience changes in occupation. Challenges at work are bigger, and projects are more complex, calling for the inclusion of new and diverse solutions. With such rapid changes it is important for all of us to acquire new skills and expand our perspectives to be able to keep abreast of these changes. Learning new skills and learning from each other, as we keep an open mind to changes, are healthy approaches to developing our personal and professional growth. We all need each other. We are all responsible to contribute in the best way we can.

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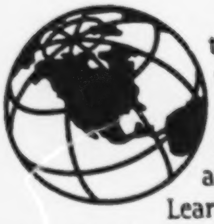
xpanding Your Opportunities

by Sterling Glispie



The benefits of being a team player are solving problems together, sharing opinions, sharing expertise, and sharing ideas. We also support one another's growing and learning. Learning people-skills is one of the ways of being a team player. Communication can happen on all levels of life. Through networking we open up the windows of opportunity. We can share ideas, and we can move up productivity by using the web. With global networking we can communicate with people all over the world learning different cultures.

Team Communication

by Rosa Tapia
McGaw

There are many benefits to working cooperatively. The idea of working as a team means that everyone is responsible for working together and sharing information. Everyone is responsible for listening and communicating with respect. If we work together, there are more ideas and solutions to problems. Most importantly, we need to have good communication to share our ideas and solve problems together.

One Great Idea

by Leonor Jimenez
McGaw

I think that teamwork at the workplace is very beneficial because eryone gives their opinion on how to do a good job. Together we come to one great idea to do the best job. Each person tries to do his/her part well. It also gives us the chance to get to know our co-workers better.

Knowing Your Team Members

by Eugenia Sandoval
McGaw

One of the best things about working at the same company with the same people for twenty years is that you get to know your team members on a more personal level. We have gotten to see our children grow, and we've helped each other out during tough times. I have made many good friends that will be with me throughout my life.

Give The Best Of You

by Gerardo Parra

In my experience I have seen that teamwork is a good way to work. I think motivation is the best road to success in our lives. When we try to do our best in the workplace, we contribute to the success of the company. If everyone of us tries to do his or her part well, the finished product will be a good one. Every person is an important part of the team because someone's opinion or suggestion could change the direction of the company, or the production could come up. Each person is a piece of the whole. For example, if one part of a car doesn't work, the whole car won't work well.

First of all, good communication skills are basic for good teamwork to succeed in the workplace. In teamwork we have to listen to everyone. One smart idea or suggestion can inspire a whole team to be more creative. If you share a problem with your team, you feel better. The satisfaction is great when you are able to help solve a problem or answer a question for a co-worker. We have to learn how to respond and how to communicate with our team members. In my company when a new employee comes, it is the responsibility of his/her new team to give that employee the training he/she needs to be successful in the job and to make the new person feel comfortable. For a team to be successful, everyone must be responsible and do whatever is necessary in order to have a good end result; that's why you have to give the best of you.

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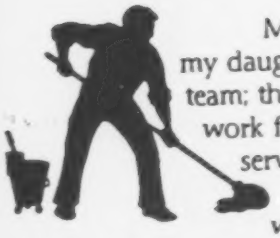
Helping Each Other

by Lee Yi
McGaw

In our company all employees must attend team meetings. We discuss what kinds of problems we have. We train in all jobs. This helps our teamwork because we all understand each job. If co-workers have a oblem, they can call on each other for help. We on't let different job positions or payscales keep us om helping each other. If teamworkers don't work qually or don't use everyone's ability, the work oesn't get done.

The Best Workplace Team!

by Paula Juan
I.S.S.



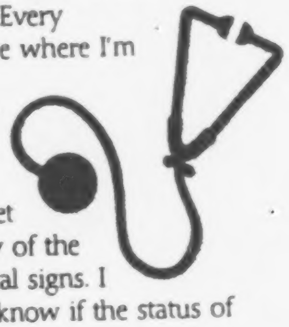
My husband, my son, and my daughter are on my workplace team; that's why it's the best! We work for I.S.S. which is a cleaning service company. I think we are very lucky to be able to work together. We help each other and try to finish the job as soon as possible. Because we all work very hard, we get to finish faster and go home earlier. My oldest son was the first to go with the company, and then he took my husband to work there. Before long I started to work there also. I have learned to do many things like set alarms, and I can vacuum like a pro. I do other details that are not in the contract but that I like to do. We have a great time working together, and we get paid for it, too.

"If you have knowledge, et others light their candles at it."

Author Unknown

The Best Of Our Ability

by Maria Elena Galindo
Tustin Rehabilitation Hospital



At the rehab hospital where I work, there are five different floors. Every morning I go and check to see where I'm assigned to work that day. "Good morning," I say to my patients. "I'm with you today." I start taking vital signs. It's very important to let the charge nurse know if any of the patients have high or low vital signs. I need to let the charge nurse know if the status of our patients has changed.

We are a team at the rehab hospital. We all want to do the job to the best of our ability. We all want to give good care to our patients, and we can do that better as a team. There are many benefits to working as a team. We share information, learn new ways of providing care, and solve problems together. Sometimes a member of the team doesn't know how to behave in front of the patient or family members which results in unprofessional behavior. If one of our team members needs to be corrected, I think it is better to tell that person what they did wrong in private. Then we can discuss the problem together. I think working as a team is better than working alone. That way we get to know each other on a more personal basis, and our attitudes toward one another improve.

Best and Easiest Way

by Gerardo Ramirez
McGaw

I work on a team everyday because it is the best and easiest way to do the job. Our team is necessary because we have a complicated area and a complicated product. I like working on the team; the team provides all of us with new ideas for our work. Even though we work the night shift, we have a good time.

Sharing Ideas

by Jaime Madrigal
Newport Corporation

I like to learn to speak and ite good English, so I can rticipate more in teamwork. I l good when I share my ideas th my co-workers. We also need listen to one another to learn and appreciate each her's knowledge and experience. That way, erybody improves on their job. Teamwork should a learning and growing experience. We learn ore about our company and its products, and it so helps our self-confidence.

Work Faster and Better

by a JobLink Student

Teamwork is a good thing to do. We need to have good communication and listening skills to work together. Working as a team is better than working alone because you get lots of opinions and creative ideas. All of us can work faster and better, and we can share our ideas and help each other. When we are finished, we feel happy.

It's Fun!

by Khieng Pheak
3M Health Care

I'm very happy about working in teams because the members have good ideas to share with one another. For example, if we make a mistake, we have good friends who explain things to us and we n a lot. Working as a team is tter than working alone because we can work faster, and that's another benefit of teamwork. We also get to know our co-workers better, and teamwork can be fun!

Family As Teamwork

by Sergio Ocampo

Learning English is hard when you study alone, but when you have a beautiful, great family like me, it's easy.

My mother, a smart woman, was the only person that knew how to talk in English when we arrived here. My father talked a little, and I knew some things, but my sisters didn't know anything about this language. Now, a month later with excellent teamwork, I can say that we've learned a lot.

I'll give you a small example of how we work like a team:

I'm studying English in a great place, and I'm very lucky because I have an excellent pretty teacher who, when she heard me say "yes or yet", she gave me the key to pronounce it in the right way.

The right way to pronounce the "y" in English is to say the word "hielo" in Spanish. All this explanation I told to my family, and now nobody in my family makes this big mistake.

All this experience is very important for us because in this country if you don't know how to talk in English, you can't do anything. We have many goals in the future, but the first goal is to talk in English and then we want to know more about this country, its customs, etc. so we learn more every day.

Now, you know that I'm very proud of my family, and I'll do anything for them. I also say to you that the family is the most important thing in life. Don't ever forget this.

YOU HAVE TO WORK
AS A TEAM!

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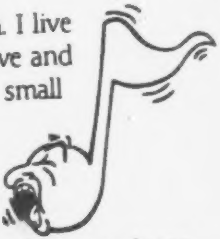
Making Music

by Erick Ocampo



I'm a resident of Santa Ana. I live on Garfield St. My family is my love and my life. I'm coming to learn at the small business school. I think that this school is best. Mrs. Peg is my teacher. She is very intelligent and very kind. I'm very happy that I decided to learn English here. My experience here is very interesting. Today my work is to write a letter about "What are the benefits of teamwork."

I think about this; for me it is very important to work in teams. The positive aspects are the relations and ideas of all the participants. We'll get great ideas; the problems are very easy; contributions are very important; and the solutions are fast. The teams need enthusiasm, consensus, and hard work. This is the key to triumph. I think there are more positive aspects than negatives to working teams.

My other occupation is a singer. I need a group for my concerts. Relationships in music without communication are terrible. I need to have good communication with these musicians, understand how they think, and understand their proposals. For me it's very important to work as a team. I use for these concerts the following instruments: saxophone, keyboard, panflute, guitar, bass, percussion, violin, oboe, and trumpets. For me it's beautiful to see all these people on the stage making music together.

Solving Problems

by Judy Lam

Newport Corporation

Teamwork is really important to the workplace. There has to be good communication and a sharing of good ideas, parts, and materials. e can solve problems as we work together in the group. We don't make fun of people when they make mistakes because we need to respect each person and their ideas.

My Sister-in-law and I As A Team

by Erika Guerrero

Working as a team with my sister-in-law has made everything a lot easier for both of us, rather than when she and I were working by ourselves. My sister-in-law, Martha, is the one who got me to come back to school. She would help me by telling me that I could do much better at things for success in my life if I went back to school. I would always be complaining to her about not being able to get what I wanted or where I wanted to be in life. My goals in life are to be able to get my GED and to learn how to spell right so I can get a good job. Martha supports my ideas.

I also help Martha by babysitting her children while she's working. We both share our ideas. We also trust one another. We both work better as a team than by ourselves.

Solving Problems With Teamwork

written as a team:

Rene Alaniz and Fidel Santillan

Fiberite

I had one problem last night on the machine. I left a note to the maintenance man to repair the machine. I didn't understand what the machine's problem was. It sounded like there was a very big problem to repair. It was going to take too long to start up again. But with two maintenance men working like a good team, these two men did a good job. They fixed the machine very fast. They were working like a good team.

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JobLink Letter

Written by JobLink Students and Staff

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JobLink

A National Workplace Literacy Project

JobLink Lab • 1201 Bell Avenue • Tustin, CA 92680 • (714) 258-0418
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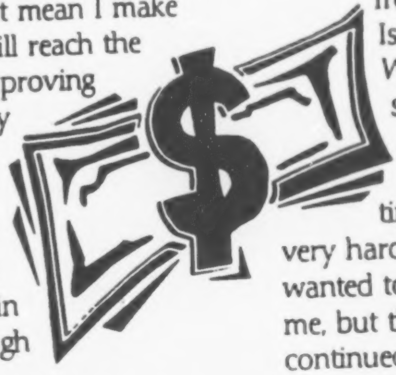
JobLink Letter Nov/Dec '96

National Workplace Literacy Project • Written by JobLink Students and Staff

Success— Feeling Good About Myself

Duyen Le-3M Health Care
Distance Learning Student

Well, what I think about success is that it is not easy to define this word. I always wonder what success means to me. Whenever I am thinking about success, I still remember, "Money can't buy happiness." From my point of view, success doesn't mean I make a lot of money, but it means I will reach the goals that I set in my life, like improving the quality of my life, making my life today better than yesterday, and especially feeling good about myself.



I still remember the days en I lived at a refugee camp in Malaysia. That time was the tough time in my life. I was really sick both physically and emotionally because I had to leave everything behind me- my Homeland, with lots of sweet and unforgettable childhood memories, my Mom and Dad, my sisters and all my friends, my sweet home with a little garden full of different kinds of flowers.

The reality is not fancy like we all dreamed of. I had to pay too much to get to the free and promised land. I crossed the Pacific Ocean in a small boat and arrived in Malaysia. I lived in a refugee camp which was located far from land. It was called Paula Bidon Island. The life there was very difficult. We lacked every-thing- water, food, shelter. After one year I left the camp to come to America. We always called it the Promised Land. I worked part time and went to school. I had to try very hard to adapt to this new life. Sometimes I wanted to give up because it was too much for me, but thinking of my Mom and Dad I continued to try my best.

Now, I have a job at 3M Health Care where I work as an electronic technician. I have adjusted to the life in this promised land. Looking back on what I have done for my life, I feel good about myself, and I guess I got a little success.

What I Need

by Celia Rodriguez
McGaw

What I need to be a successful person are these things. For me, the most important thing now is to be a good daughter to my 94 year old mother. The second is to learn very good English, to speak, write, and read. It's good for me at work and at home. And I want o be a dependable person. I hope I will reach my success.

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Success To Me...

Nasser Issazadeh
3MCDI

Success means coming to the United States and reaching 80% of my goals. The time I decided to come here there was war in my country and all borders were closed. Nobody was allowed to leave the country, but I did it. I did it very successfully. It took me 2 years to get here but now everything has settled down and I'm ready for new challenges...

Being Successful

by Peter Nguyen
Rancho Santiago College

According to the dictionary, success is ching a certain goal. In fact, each of us has veral goals in life to reach, such as getting a gree from a college, getting married, ving a happy family, or getting good job which we ve to do with good pay. aving goals is one thing, d reaching them is nother thing. When we ach or accomplish our goals, we are ccessful. No matter what our goals are, we ust be patient and concentrate on our goals ontinuously to be successful. Undoubtedly, uccess is very easy to say, but not to get. d, many problems, difficulties, or barriers nay come up which we can't avoid to face and et involved in.

Actually, I'm not a successful man because I haven't reached any of my goals yet. There are many goals that I have set in my mind, such as speaking English as well as Americans, getting a job in the law enforcement field. However, I still keep trying even harder to reach my goals and believe that I'll reach them one day if I don't give up on the difficulties in my life.

Finishing Goals

by Eugenia Sandoval
McGaw

Success for me is being able to speak and write English l. I also want to improve my math skills. I feel successful when I finish goals that I have in mind. Having better communication with people and writing English better are going to be my successes.

My Goals

by Maria Lopez

I would like to be at school for a few months. When I finish my English classes at school, I want to find a job in a bank, or be a cashier in a store like Sears. I want to be happy with my children and prepare them for when they are bigger. I want to say to my kids, "Let' s go out to dinner."

I like to be a good mother, and good friend for my kids, and all people around me. The money is not important to me, but it's the base for the future and a better and happy life. I know I can have it by working, working, and working for the future of my family and me.

Trying To Be Successful

by Juan Villalobos

I believe that you can be successful if you go to school and take a career. When you accomplish what you want, then you feel successful. But there are many ways of success. For example, love is one. You can be successful with your family, especially with your wife.

Also fame is a kind of success that includes money because you have to have money to be famous. Singers have a lot of success. For example, I know a singer whose name is Marco Antonio Solis. This singer is a success because he is very famous.

In my own words, I would like to be successful in the future. That is why I am trying to study more English and more math and a little bit of everything. I would like to become a computer repairer because you can make good money doing it.

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Letter to My Teachers

by Arturo Estrada
Oshman's

Success means making any change in r life.

Teachers, I'm so happy ause I found good things in book. When I was living Mexico, I went to school ny years. I was ready to go the university, but my life changed en my mother died. Now I have almost 9 ars in California, and I have my wife Edith d my 2 children, Minerva and Junior, and o my little brother Ulises. I see what's portant is still school. I have been coming to hool for almost 2 months. I feel happy ecause I am learning many things in this y. And I hope still to learn, learn, learn ery many things.

Success is believing in myself. Thanks for elping me.

Sincerely, Arturo E.

To Speak Fluently

by Rosa Tapia
McGaw

Success for me is being able to speak and write English well. I will be successful the day that I am able to speak fluently with my neighbors and co-workers. I want to be successful in this matter. That is why I take every opportunity to come to the JobLink Lab and learn new things everyday. I am trying very hard to be successful.

ank Steelcase Corporation and the Job Link Lab for helping me to reach success.

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How Can We Be Successful?

by Ray @ BISC

Practicing in our imagination gets outstanding results. I believe we all have the power within to become successful. The most important thing is that you need to know exactly (with all the details) what you really want in life, in order to achieve your goals. You can use your imagination to create a mental picture, or scenario, of what you desire. By going through this visualization technique, you'll reach your goal much sooner than if you physically work too hard at it.

For instance, sit down comfortably on a chair or sofa. Take a deep breath and relax. Close your eyes and imagine yourself getting what you really want. Get a detailed picture as you possibly can. What are the circumstances? Where are you? Who are you with? What are you wearing? What exactly are you doing? Repeat this process as often as you can each day, especially just before you go to sleep! This technique will take you less than five minutes.

Visualizing perfect performance helps you to reach your goal much sooner. We always attract into our lives whatever we think about most, believe in most strongly, expect on the deepest levels and/or imagine vividly. In other words, your mind is like a magnet. Continue to dwell on what you want and you will achieve it!

Feeling Proud

by Aree Kim
McGaw

For me, success means I can speak English, and I can make some money. I can also feel proud about my family and watching my kids grow.

What Is Success For Me

by Loan Huynh
McGaw

For my personal life, I hope I will be successful in aising my children as they grow up. My plan for them is that they will be good people and they will help others. On my job, I want to speak and write English luently so that it will be easy for me to understand my job, my friends, and my boss. If there is an opportunity, I hope to get a promotion which would make my life better and give me the chance to help my mom more financially, so she can have an easier life in Vietnam. My success in learning English has made me understand American life better, and with this understanding, I don't feel lonely any more.

Many Successes

by Maria E. Campos
Alcon Surgical, Inc.

Working in a big international company, like Alcon Surgical, makes me feel lucky and proud. I feel very successful at work when I finish the assignments given to me on time and correctly.

I am fortunate because my supervisor gave his approval for me to come to the conversation class here at JobLink, where I have been learning a lot of new things and where I have very nice instructors.

It is also a success for me to have three children like mine; I am proud of my sons and my husband, too. I love them very much.

I am thankful this country gives opportunities for people to study and improve their skills which help them to become successful.

Feeling More Comfortable

by Maria Nunez
McGaw

For me, success means improving my English and my writing because now I can speak and write more English. I can ask questions when I do not understand something, especially at my work. I feel more comfortable when I speak English, and I am very happy to come to JobLink.

Never Too Late To Progress

by Maricela Pinzon
McGaw

The word success means a lot to all of us. It means to progress for our future by working toward a goal. We can have success at home. We can have success at work .We can have success at the JobLink Lab. I would like to see success for my children, for them to go college and have a better future. I am successful when I learn something new at the Joblink Lab, and later on I will be successful when I have a G.E.D. degree or a better job. It is never too late to progress and to be successful.

An American Citizen!

by Marleny Oviedo
Rosemount

I feel successful when I come to a JobLink class and learn something new. Success for me is also understanding somebody at my work when he or she speaks in English. I felt very successful when I became an American citizen! As Martin Luther King once said, " ... success means other things as well. You can measure it by how you feel about yourself."

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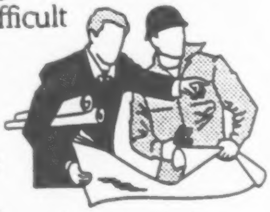
Reading Blueprints

by an Alcon employee and a JobLink student

I think everybody has a story about iving success. Going to school and learning to ad and write English are successes for me. It's ery difficult; but if I try and see that I am arning, I feel great!

Yesterday my friend gave me directions) her house. It was very difficult r me, but I read the map. hat was a success for me ecause I was able to ollow the directions on the nap. The other day my riends taught me to read blueprints at work. hese blueprints are used to build machines. Jow I can read the blueprints by myself. This s also a success for me. I've been trying very [illegible] and I did it! Even making mistakes is O.K. [illegible] if we learn from them. Successful people lso make mistakes.



New and Different Jobs

by Delia Torres
McGaw

For me success means being able to improve myself. I have had a lot of new experiences on my job; more and more opportunities to achieve come to me and I am so happy. I do a lot of new different jobs now. I can do paperwork now. I fill work orders and purchase orders. I have met new people from the Purchasing Department and the Small Packaging Department. I'm so happy about that.

At home I can do more letters and read all my bills before I send them back. I feel very successful about myself.

Fulfilling A Dream

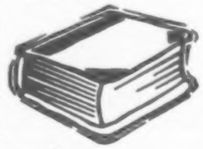
by Ana M. Rios- Alcon Surgical
Distance Learning Student

When you put a lot of effort into your work and you are able to reach your goals, you are a success. When you do nice work and your supervisors congratulates you, you know you are a success. When you are able to fulfill your dreams, you are a success.

JobLink Means Success

by Manuel Hernandez- Alcon Surgical
Distance Learning Student

I think that I have a very good success story to tell because since I started to go to the JobLink classes, I think that my writing is better. I know that because now I can send more E-mails, and it is easier for me to write. I think that this JobLink class has helped me a lot. I know that I need a lot more because I have only been studying for 6 weeks. Already I can write and read better. I will continue coming to my classes to improve more. Thank you people from JobLink.



What Success Means to Me

by Maria Camarena-Alcon Surgical
Distance Learning Student

First, it is to be able to speak English with no difficulty. Second, it is to continue with my education so I can help my kids with their homework. Once I accomplish these two goals, I know I'll have good success in my life. I think that you have to set goals for yourself in order to have success and that is what I am doing.

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JobLink Letter

Written by JobLink Students and Staff

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JobLink Letter September '96

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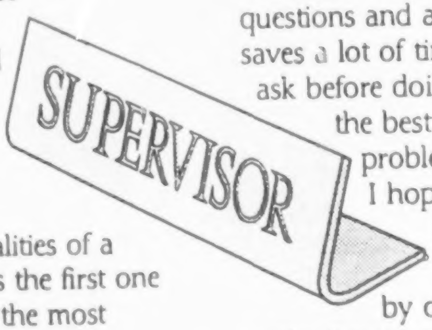
The Good Supervisor

by Peg Donner-Instructor at the BISC Lab



My husband used to have an army sergeant who loved to say "Communication is the essence of command." Over the years of our marriage we have laughed and used this quote whenever we had a misunderstanding. Now, I think maybe this sergeant had a good idea!

When I think about the qualities of a good supervisor, communication is the first one that pops into my head. Probably the most important thing to communicate is clear job expectations. What does my supervisor want me to do? I can't do a good job unless I know what that job is and how to do it!

Working as part of a team means that communication has to be a two-way street. We listen and we respond. Sometimes we have questions and are embarrassed to ask them. It saves a lot of time and possible mistakes if we ask before doing. Then the job gets done in the best way possible. What if I see a problem or a way to do things better? I hope my supervisor listens to my ideas too.

As you read these articles by our JobLink students, you will notice how many talk about how a supervisor communicates. Motivation, respect, and even a sense of humor will bring out our loyalty and help us look forward to going to work!

The Ideal Supervisor

by Lorena Ruvalcaba
Los Panchos Restaurant

The Ideal Supervisor should be friendly. He has to do his job. The supervisor can say when I am wrong, but just when we're alone. He should respect me. When he always helps his workers, we respect him.

People Skills

by Alberto Serrano

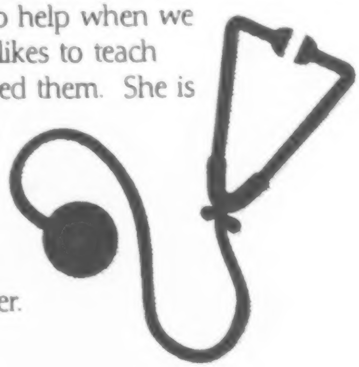
What makes a good supervisor?

A good supervisor is someone who's a good communicator, pays attention to details, gets along with people, has plenty of experience and is a good motivator.

Who is She?

by Martha Ayala
Western Medical Bartlett

The first thing is responsibility. She is on time all the time. She is very smart. She is very friendly. She likes to help when we have troubles. She likes to teach things when we need them. She is a good co-worker. Do you know her? She is the best supervisor in this hospital. Her name is Alma Cover.



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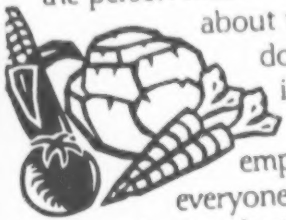
Link Letter — A National Workplace Literacy Project Sept. 96

My Favorite Supervisor

by Cesareo Bello
Vons Market



I think in order to be a good supervisor, the person must have the knowledge about what he or she is doing. Also it is very important for him to be kind with his employees, so in that way everyone is happy. Happy people do a better job.

Next he must have a good sense of umor. A little joke now and then is good for ie team. I do not like a supervisor to act like a ergeant in the army, giving orders in a rough vay.

I remember Joe, my last supervisor. a nice person he was! He always greeted is with a smile on his face and sometimes even isked about our families. What a guy! I miss nim a lot. Even though he is not my current supervisor, I still remember him.

Good Communication

by Rosie Barron
Alcon

I have been a very lucky person to have a good supervisor. She is very understanding, and I think that is very important for a supervisor. To be in that position, a person has to be very responsible. To me it is very important to get along with every body. at way all the co-workers will do good work, ep their jobs, and everyone will be happy.

Building Roads

by Eduardo Lopez
Reed Thomas Co.

Many people are driving their vehicles everyday to their jobs, to their businesses, to their homes everywhere using public roads, streets, and highways.

Many of us do not realize the work it takes to build those public roads and highways. I'm working for a construction paving company. My job consists of operating some of the equipment that we use to do that work.

Sometimes I have to work as a laborer doing manual things like traffic control. I like my job because most of the time I work outside in the field. I work everywhere, and I learn some new things everyday. I have a great time with my co-workers having fun everyday. We like to see each other as friends and help each other. I like to see the streets and public roads when they get completed, and I know I will be driving those roads and highways sometime.

I'm going to school because I want to educate myself. I have to speak and understand English fluently. My job requires it, and I have to read instructions in English very often. Every morning my supervisor assigns me to a certain task. At the end of the day he comes to me and asks me how I did. I feel good about myself because now I'm able to explain to him step by step what I did during the day.

I feel happy because, thanks to school, I'm doing well day by day, and I can do my job much better.

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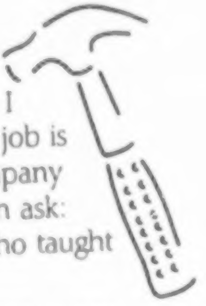
Making It Right

by Oscar G. Rosas
Dynacast



I started working at Dynacast 6 years ago, and besides my job as a mechanic, I have learned that a well-done job is important not just for the company but myself. Now anybody can ask: How could you learn that? Who taught you?

As a matter of fact, I have to say that I have had good supervisors. I can see in my mind a supervisor as a leader. They have been patient when it is hard for me to follow instructions, and they know how to pull out my best effort in the job.

Supervisors here at Dynacast know how listen to new ideas from other employees to make our job easier and faster, and most important, to make it right the first time.

A Good Supervisor

by Rene Alaniz
Fiberite

To me a good supervisor is a person who knows how to handle any problem at the company with a smart solution. This supervisor must know how to treat people with good manners and demonstrate respect to everybody. Also the supervisor must be very responsible.

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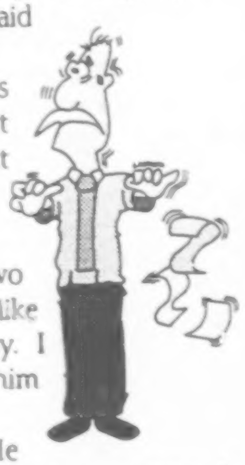
Surprise!

by Pedro Hernandez
Fiberite

I am writing about my supervisor and what makes a good supervisor. First of all is the communication and the confidence between the supervisor and the workers. You can list your opinions or any ideas to improve production and increase quality for the customers. Then the supervisor must communicate with the employees for any changes in procedures to work safely all together.

Sometimes the workers don't think it is very important to be on time at work. I think all this is very important because your supervisor sees your attendance.



I had been working for almost nine years in shipping, and suddenly one day my supervisor came to me and said "Now you are in charge of shipping and receiving!" I was in shock. I didn't know what to say. He told me to think it over on the weekend, and I said yes.

Now I have almost two years as leadman, and I still like it. Sometimes we are so busy. I go to my supervisor to ask him what to do, and he always finds the way to help me. He wants to make sure everything goes on time. I just want to tell my co-workers to pay attention to what we are doing safely and whenever they can go the "extra mile," just do it!

A Restaurant Story

by Juan Villalobos
Laidlaw

I guess that in order to be good supervisor, the supervisor eeds to know how to do all the ork. He also needs to be kind to ll the workers. He does not have o be too pushy; otherwise, we tart doing things wrong.

But I also knew a supervisor that was oo nice with everybody, and all of the people used to take advantage of him, even myself. We used to eat in front of him, and he would not say anything to us.

Another time, one manager asked me, "What are you eating?" He wanted to open my ith to see what I was eating. Finally, I told [illegible] that I was eating a cherry tomato, and then he told me it cost 25 cents. "Pay it," he said. But he was only joking that day with me. In reality, he was a tough manager. So, that is why I believe to be a supervisor is not easy.

A Great Question

by Kindy Ngo
Steelcase

That seems like a pretty good question for those who are supervisors, as well as for those who are employees. I think if a person wants to be successful in a supervisor's job, he or she has to meet the categories below. They must be smart and calm, always have good ideas, motivate, and look out for the employees' and the company's terests first. They need to have a good understanding of their employees, get along with everybody, not be prejudiced, pay attention to what is going on, give a quick response, and help you get the job done.

My Interview With My Supervisor, Carlos Ayala

by Loreto Tinoco
Polyclad

Q:	How long have you been a supervisor?
A:	I have been a supervisor for 4 months.
Q:	Do you like your job?
A:	Yes, because I can learn a lot of new things.
Q:	How do you feel about the company?
A:	I like this company because it gives the opportunity to all employees to have a better job.
Q:	What do you think about the people having overtime problems?
A:	When that happens, I try to make a good schedule for them.
Q:	Do you think your job will change in the future?
A:	A lot of changes will happen in the future due to the new procedures in our process.

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A Supervisor's Relationship

by Antonio Maldonado
Toshiba

I think a good supervisor is a person vho has a good relationship with the workers. like it when the supervisor comes to me and ells me, "Learn as much as you can. If you want to know something, just come right to me, and I will help you."

I like a supervisor who works with me instead of one who orders me like a sergeant.

A Supervisor's List

by Pedro Ortiz
Polyclad

Supervisor Needs:

- to be responsible
- to be ready to help
- to be able to listen to the people
- to be attentive before the problem gets bigger
- to know all the steps in the job (manual and theoretical)
- to give fast decisions in a problem
- to look for new methods that increase the production in a standard way, so the workers aren't in stress
- to have authority to order workers, but in a polite form
- to be friendly

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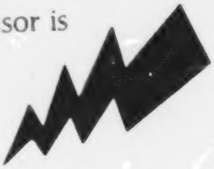
The Person in Charge

by Esther Valencia
McGaw



To me, the good supervisor is the person who has good manners to give any orders.

A good supervisor is the person that listens to everybody no matter what age, color or anything else.

A good supervisor is the one who tries to resolve our problems in the good way. In other words, the good supervisor is the one that has the education, ability to listen and communicate to others, and find the solution for whatever the problem is.

My supervisor is like this. I'm lucky I have good supervisor.

What I Would Do

by Cat Le
Tycom Corporation

If I Were a Supervisor:

1. I would try to help all employees to do their job right.
2. I would help everybody when they needed help.
3. I would help motivate employees to improve their skills.
4. I would not show prejudice against any sex, ethnic group or religion.

The Best Supervisors

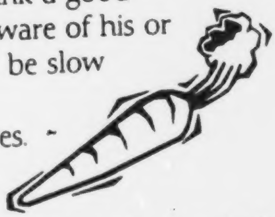
by Isabel Torres
McGaw

I think good supervisors are the ones who remember the good things an employee does, not only his/her mistakes. They make their employees feel comfortable about their ideas at team meetings. In addition, they have good communication with all employees and give employees an equal chance to advance or have training. Their directions are clear and understandable. They try not to show prejudice against any ethnic group, religion or sex. They help motivate their employees to improve their skills.

The Encourager

by Lourdes Torres
McGaw

If I were a supervisor, I would try to make employees feel comfortable about their ideas at team meetings. I would try to have good communication with employees and make sure they have a pleasant working environment. I also think a good supervisor should be aware of his or her employees' feelings, be slow to anger, and give all employees equal chances. Supervisors should work to help employees advance or motivate them to better their skills. Perhaps the most important thing is to encourage employees to work well as a group and help each other.



What Makes a Good Supervisor

by Maria E. Campos
Alcon

A good supervisor is a person who has good understanding and communication. He (she) should get along with everybody. The more experience he or she has with the product, the better the supervisor will be in order to make a good quality product.

He should be a great motivator, give ideas, and help you get the job done well.

A good supervisor is the one who understands yours needs, like going to the doctor (you or your children), or letting you attend your children's school meetings (making up for the time missed.)

Characteristics of a Good Supervisor

by Maria Murillo
McGaw

I think a good supervisor is one who gives all employees an equal chance to advance or have training. He or she also has time to talk to employees about their personal problems or their departmental problems and has time to discuss how to solve them.

It is also helpful to help motivate employees to improve their skills. My supervisor is nice and polite, and he always has a smile.

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nat does a Good Supervisor Do?

by Rogelio Mendez
CNC

good supervisor:

- Is a good manager
- Is friendly
- Understands the employee
- Has patience
- Helps when an employee has some problems
- Listens to an employee
- Gives employees motivation

Important Things

by Thuy Tran
Alcon Surgical

I think the most important things in becoming a good supervisor are:

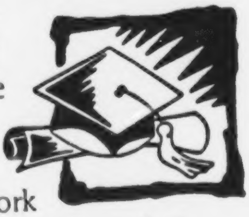
- To have good understanding
- To communicate well with employees
- To have necessary experience/degrees
- To work to motivate employees
- To pay attention to employees
- To compensate/reward employees efforts

If

by Soenhee Park

If I were a supervisor:

1. I would try to communicate with the employees as much as possible.
2. I would care about my employees as people.
3. I would work to motivate them.
4. I would give equal opportunities to all employees.
5. I would not show prejudice against any ethnicity, religion, sex, age, etc.
6. I would advise the employees regarding promotions.
7. If they had any problems, professional or personal, I would try to help them solve them.
8. I would make sure the working conditions were good.
9. I would encourage all employees to get more education and improve their skills.
10. I would help them work toward higher productivity and then give them the credit.
11. I would be aware of the employees' feelings, attempting to be slow to anger and maintain polite and nice behavior.



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JobLink Letter

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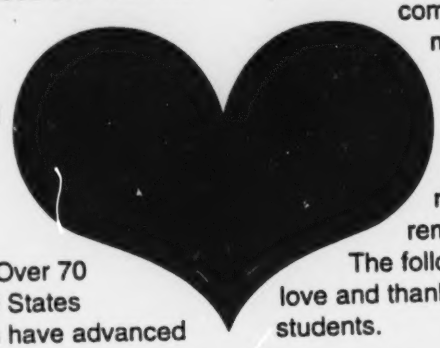
A JobLink Letter

A National Workplace Literacy Project

Our Letters of Love

All of us at JobLink thank you for the many kindnesses you have extended to all of us. Surely JobLink could never have found a home more beautiful nor a host more generous than you have been. Over 500 employees from over 30 Orange County employers have passed through these doors, and each has been both surprised and touched by these lovely surroundings.



Steelcase design and furnishings have lent a special prestige to JobLink. The learning has been enhanced by the message the environment sends- "You are important. You are special!" Over 70 students have become United States citizens, hundreds of students have advanced on their jobs, many have received raises, most have received positive reviews, and we are convinced that the most important achievements are still to be measured.

It is certainly praiseworthy for you to support this lab for your employees, but the fact that you invite employees from neighboring companies to participate is truly magnanimous. The staff, the students and the instructors are sorry to see that our enthusiastic supporter will be leaving us but we trust your move will serve you well. You will remain in our thoughts and prayers. The following letters are special letters of love and thanks sent to you from JobLink students.

Dear Mr. Gonzalez,

I want to tell you how sad we feel about your leaving. I remember my first day when I came to JobLink; I didn't speak hardly any English. But today I have the opportunity to write something to you because you opened the door for us to have a better future. Thanks, Mr. Gonzalez, for everything you have done for us.
I want to say, "Congratulations!" on your new position, and God Bless You always.

Sincerely,

Marleny Oviedo
Rosemount Analytical

Dear Mr. Gonzalez,

I want to say thank you. I'm glad there are some people like you who are interested in helping other people. Because of you, we the students here at JobLink, have the opportunity to study English, mathematics, and other skills. I need everything they teach at JobLink Lab.

My name is Ana Ramirez, and I work for McGaw Laboratories. God Bless you and thank you.

Sincerely,

Ana

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Hi! Mr. Gonzalez,

My name is Joel Sanchez. I'm working for Rosemount Analytical, and I came to JobLink to improve my skills. I heard you are a very nice person, and I want to thank you because you worked so hard to make JobLink happen. Good-bye, Mr. Gonzalez and Goodluck.

Sincerely,
Joel Sanchez

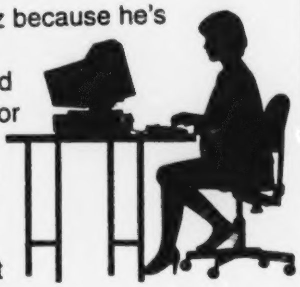
Dear Mr. Gonzalez,

My name is Jorge Arroyo. I am a student here at JobLink and have also been an employee of Steelcase, Inc. for eleven years. I have been coming to JobLink since it opened at the Steelcase facility, and it has helped me a great deal with my basic skills. I am very grateful for JobLink and to the wonderful teachers for their patience and for sharing their knowledge and experience with us, their students. I have so many things to thank Steelcase for, and JobLink is just one more to add to the list. Mr. Gonzalez, I hope that whoever takes over your position continues to support JobLink for the benefit of not only Steelcase employees, but all the other students as well.
Best of luck in your new position and thank you once again.

Sincerely,
Jorge

Mr. Pablo Gonzalez,

I'm glad for Mr. Gonzalez because he's thinking for the people's need to learn English and computers. Thank you for everything. You are very kind. I'm happy for JobLink.



God Bless You and Best Wishes

Agripina Cortez

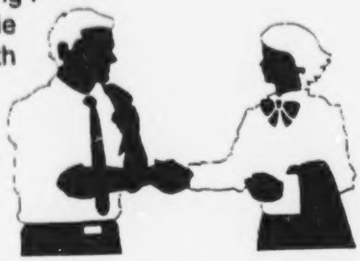
Dear Mr. Gonzalez,

My name is Aree. I know you work so hard. I appreciate that you give me a place to study. Now, I can study English and computer. Thank you very much for your support.

Bye
God Bless You,
Aree

Mr. Gonzalez,

I work for McGaw. JobLink Lab is very important to me because I am learning a lot. Since I started coming I feel more comfortable speaking English with my co-workers. I want to thank you for all you do for us. Thank you once again.

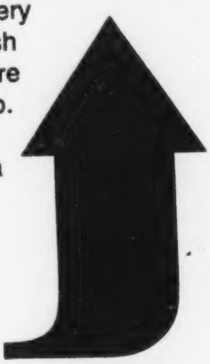


Sincerely,

Maria G. Murillo
McGaw

Mr. Gonzalez:

Thanks for this opportunity for every one to learn at JobLink Lab. I'm very interested in learning English because I want to learn more and more to get a better job. Thank you for making JobLink happen. You are a good man.



Rose Tapia
McGaw Inc.

Mr. Gonzalez,

I have not met you yet, but I know you from my teacher and friends. You are so kind and nice. Good luck to you, and I hope to see you sometime.

Vicky Tran
Printronix

I appreciate Pablo Gonzalez because he gives to us the opportunity to learn how to write, read, and speak English. It is very nice of him to worry and care that the people do not speak the language of this country. It is wonderful to know about people such as him who want to give the opportunity for us to advance. All the persons like Pablo and the persons of JobLink Lab should receive a nice letter and compliments and many thanks. Best wishes and good luck.

Rosa Marie Jimenez

My name is Huong Nguyen, and I work for Sorin. I really appreciate Mr. Gonzalez for letting JobLink stay at Steelcase. Since I came here I've learned a lot. Again, thank you for your help.

Huong Nguyen
Sorin Biomedical

To: Pablo Gonzalez:

My name is Stanley Espinoza. Well, I don't know you, but I just found out that you are a very good man, and you are leaving this company. I'm going to give thanks for the opportunity to study in this place. It's very nice to learn a lot of things. I've been in JobLink for four months. Since then my spelling is getting better. I'm learning more English to use especially on my job. Outside the job I can speak better with my friends. So, I will give thanks for this opportunity. God bless you in the new job.

Stanley
Rosemount Analytical

My name is Gabriel Martinez. Today is my first day at JobLink and one thing was very clear, you are a very special person to JobLink. Everybody says good things about you. I want to congratulate you. Someday I wish I could meet you. I am 22 years old and feel old, and that's it. I want to thank you for supporting JobLink. You are a champion and much more. What do you think about that?

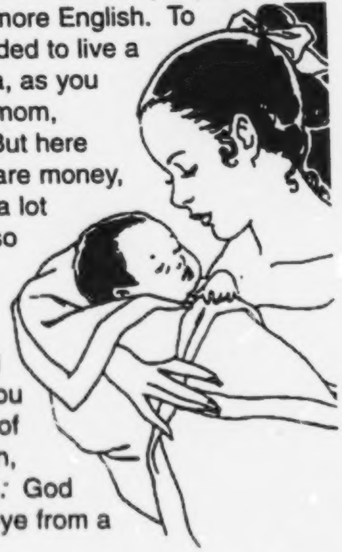
Gabriel

I appreciate Pablo Gonzalez because we have the opportunity to learn English to advance for our future and our children's future. God love's you more and more because of everything you do for all of us here at JobLink. Thank you and God bless you wherever you will be going.

Maria Rojos

Dear Mr. Gonzalea:

I'm go grateful for you giving this kind of good place. You prepared JobLink for people like me, I want to learn more English. To learn English is needed to live a better life in America, as you know. I'm a single mom, unemployed now. But here they give me childcare money, and I have learned a lot here. I like it here so much. In the near future, I'm going to get a good job. I hope I have a good life with my son. You provide these kind of things for us. Again, thank you so much. God bless you! Good-bye from a JobLink student.



Seonhee

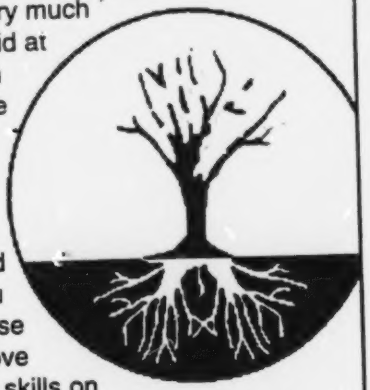
Dear Mr. Pablo Gonzalez,

The purpose of this note is to express my appreciation for your sponsorship of the JobLink program. My situation is this: I am a 59 year-old unemployed former H.V.A.C. technician with some physical problems. Because of these physical problems, I cannot do the job anymore. The reason I'm at JobLink is to upgrade and attain new skills, so I can use those skills plus my experience and knowledge from the past to help me in acquiring a new job which will be beneficial to both me and my new employer. Thank you for what you have done at JobLink and good luck in your future endeavors.

Sincerely yours,
Martin G. Vollowitz

P.S. With my great qualifications, I would hope that you might have a position for me! You can reach me at 2117 Elden Avenue, Apt. 16 Costa Mesa, CA 92627 (714) 642 -7691

Mr. Plant Manager at Steelcase, Pablo Gonazlez,
I would like to take this opportunity to tell you via this letter how much I have appreciated having you as Head of the company that I have worked for for 16 years, especially because you are a good role model for people like me. Pablo, thank you very much for everything you did at the Steelcase Tustin Division, such as the projects at the NFT assembly line. Also, thanks for all the help that you gave to JobLink and the support that you gave to the Steelcase employees to improve their education and skills on company time. Good luck in you new job. I'm sure you're going to be alright.



Sincerely yours,
Fernando Galindo
Dept. 46 - Panels

Mr. Gonzalez, Today I found out that you are going to leave here. I want to say think you for all that you have done for JobLink. I want to let you know that JobLink is one of the best opportunities I have had to learn a lot of things, especially English. Everything that you are doing for people like me is fantastic. What I want most to tell you is thank you and good luck.

Jose Guzman
McGaw

Mr. Gonzalez, I appreciate very much your efforts for me to improve my English, and I'm really grateful to you for the interest that you have for JobLink. You helped us by preparing this place for us to come to study just because you have a good and big heart.Thank you very much, Mr. Gonzalez, and good luck in your new place. I will remember you forever and please don't forget us.

Maria Nunez
McGaw

Dear Mr. Gonzalez,

Mr. Gonzalez, I would like to say thank you for this place you created to help people who want to improve themselves. I also want to say congratulations to you on your promotion and wish you good luck in your new position. Many thanks for all you've done and don't forget us here at JobLink!

Sincerely,

Martin Ramirez

Mr. Gonzalez,

I want to thank you for everything you've done for the people here at JobLink who want to learn. I'm learning a lot in this program; you have done a lot for us. I'm so happy to have this opportunity to come learn when I can because I work.

Thank you and good luck.

Sincerely,

Rosa E. Campos
McGaw

Dear Mr Gonzalez,

We don't know how to begin to thank you for helping us. We have a good place to learn and many things to learn with. We have an opportunity to know the JobLink way of helping people understand more English and be more comfortable with American life. We appreciate everything; you're one of the nicest people in the world. I am grateful I have a job and a place to improve my skills.

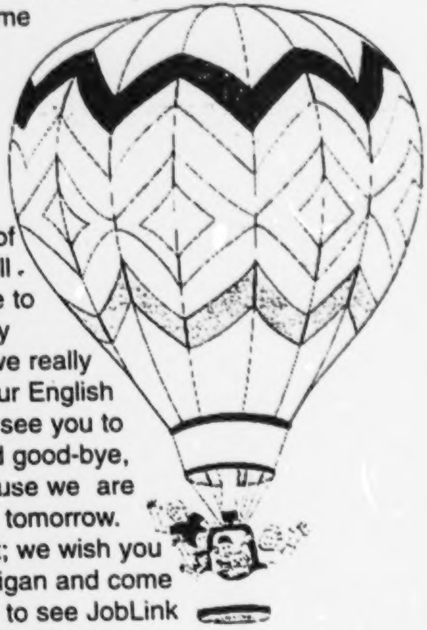
Loan Huynh
McGaw

Mr. Gonzalez, I do really appreciate what you have done at JobLink. Because of people like you who give time and experience for others, a lot of people like myself have more knowledge. I want to thank you and the personnel at JobLink for letting me come in and learn more about computers and practice on them. I want to congratulate you on your promotion and wish you good luck in your new position.

Sincerely,

Mario Contreras
Rosemount

Dear Mr.Pablo Gonzalez,



I am very sorry I haven't seen you before, but I have had heard some good things about you. My teachers told us you are a very nice person. They said that you have helped JobLink with a lot of things that make all of the students like to come here to study English because we really want to improve our English skills. We want to see you to say thank you and good-bye, but we can't because we are very busy at work tomorrow. We miss you a lot; we wish you good luck in Michigan and come back to California to see JobLink because we will miss you.

We appreciate you very much,
Ai Nguyen
Rosemount

Dear Pablo Gonzalez:

Thank you very much for your help in making JobLink possible. I'm learning to write and read English. I appreciate everything you have done to make possible a better life for me in the U.S. Thank you Mr. Gonzalez and good luck.

Isabel Torres

Mr. Gonzalez:

My name is Leo Gordillo. I want to thank you for your support here at JobLink. I am very grateful for your generosity. JobLink has helped me with all ESL skills. I wish you the best in your new position. Thank you again.

Sincerely,

Leo Gordillo

Dear Mr. Gonzalez:

I like to say thank you very much for your support for JobLink Lab. You have given us the opportunity to implement our skills in reading, writing and mathematics. I appreciate what you do for all the students of JobLink.

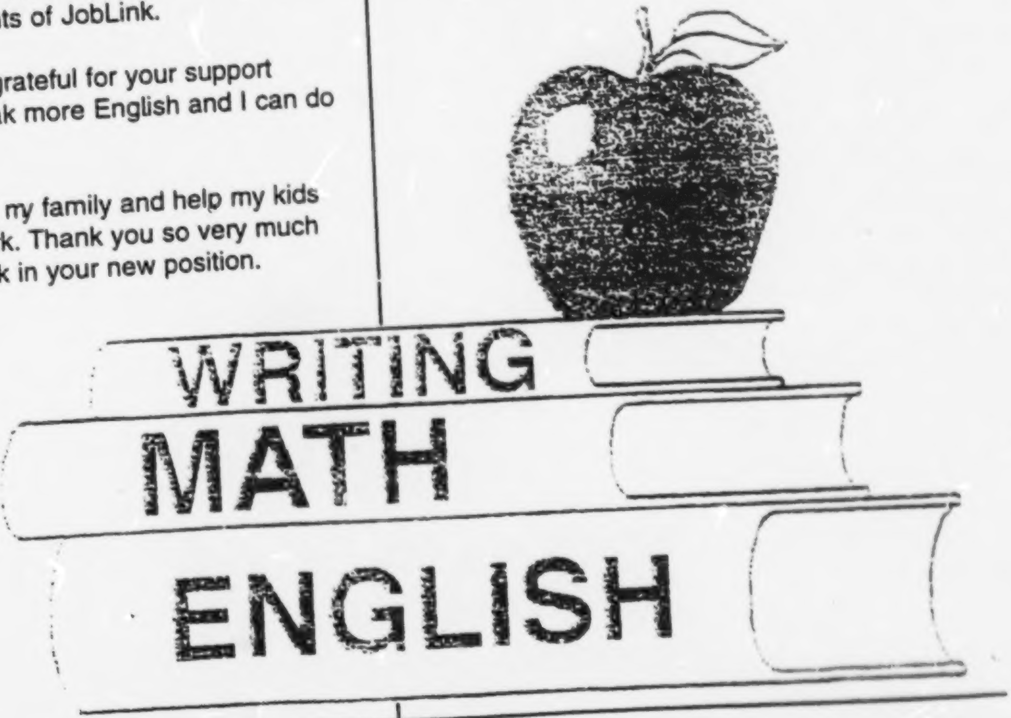
I want to say I am grateful for your support because I can speak more English and I can do my job better.

Also, I can support my family and help my kids with their homework. Thank you so very much and have good luck in your new position.

Daniel Villagrana
McGaw Labs

JobLink students and staff salute Pablo Gonzalez as a man of courage, judgment, integrity and dedication. John F. Kennedy said it most appropriately when he wrote,

"...Of those to whom much is given, much is required. And when at some future date the high court of history sits in judgment on each one of us- recording whether in our brief span of service we fulfilled our responsibilities to the state- our success or failure, in whatever office we may hold, will be measured by the answers to four questions- were we truly men of courage...were we truly men of judgment...were we truly men of integrity... were we truly men of dedication?"



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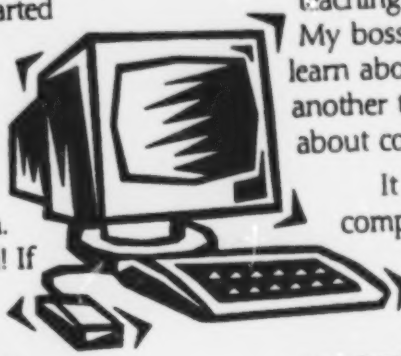
JobLink Letter

July 96

A National Workplace Literacy Project • Written by JobLink Students and Staff

Is Your Job Changing?

by Chris Pitchess- Lab Instructor



My job has changed a lot since I first started teaching. When I started to teach there were no computers in the schools. The teacher stood at the front of the class, and the students sat at their desks. Everyone in the class worked on the same lesson. Wow! How things have changed! If you come by JobLink you will find students working on computers, listening to tapes, watching videos and talking together in small groups. Everyone is doing something different.

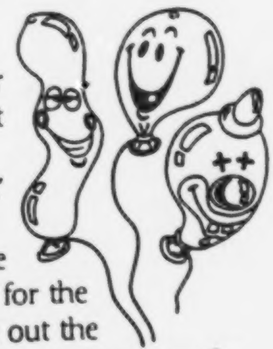
Years ago, when the schools started using computers, my boss told me that I would be teaching a class using computers. I said, "I don't know how to use computers. I want to keep teaching the same way I have always done it." My boss said, "Well, if you don't want to learn about computers, then you better find another teaching job." Guess what! I learned about computers, and I am glad I did.

It was difficult for me to learn computers, and sometimes I just wanted to quit, but I am glad I didn't. Since I learned about technology and how to use it, I have had many job opportunities. I found the best one here at JobLink! I bet your job keeps changing, just like mine does. What do you have to do to keep up with the changes? JobLink students will tell you about their job changes in this newsletter. *Happy Reading!*

Having the Right Attitude

by Gary Fortin- Steelcase

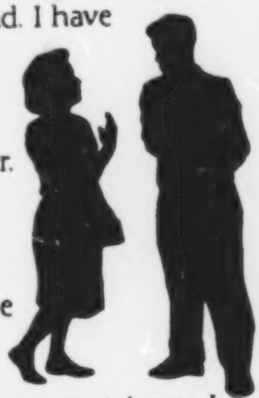
At Steelcase, things are always changing, that is one thing you can count on. This constant change improves the product and makes the plant more productive, but it impacts everyone's job. You need new skills to make the changes, but most of all you need the right attitude. Change is difficult for a lot of people who are set in their ways. They say, "This is not going to work." They are defeated before they even begin. But in the end, the change is usually for the better. You have to, "shake out the cobwebs" to grow- and you need to grow for yourself and for the company.



My Job Has Changed

by Bertha Perez- Rosemount

At Rosemount things are always changing, especially for me. My job is lead. I have to speak with my co-workers and give them instructions. I have to explain some jobs. I have to resolve problems better. I have to work with planners and engineers. I have to have good communication skills to do all these things. I used to be able to speak some English and some Spanish, but that is changing. I have to read more on my job too. I have to read memos and work orders. If I want to succeed and move up on my job, I have to keep improving my skills.



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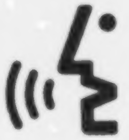
Moving Around at Sorin

by Huong Nguyen- Sorin

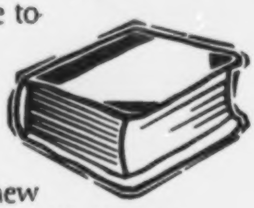
I have worked as an assembler at Sorin for eight years. My company moves you from job to job as needed. I like to change because I can learn about the different products Sorin makes. I am working now on the "reservoir", which is the main piece of equipment used to make oxygen. Before I started working on the reservoir, I worked in the tubing area. Since coming to Joblink, I have started reading more especially magazines and the newspaper. I think this has helped me improve my reading skills, so it is easier for me to read the MP's. I am also more comfortable with my communication skills. I have been working for Sorin for a long time, and I have confidence that I can do my work well.



Material Handler

by Miguel Castillo- McGaw

I have been a temporary employee at Mc Gaw for a year and one half. I am a material handler. My goal is to become a permanent employee and eventually move up to a better position. I know that I have to improve my reading ability if I want to have a permanent and better job. I also know that I will have to continue learning new skills probably all my working life because things keep changing every day. The test at Mc Gaw really motivated me to want to learn. I am a new student at Joblink, but I hope this is the place that will help me make my dreams come true. I want to thank the people at Mc Gaw and Joblink who are giving me the opportunity to learn and improve myself.



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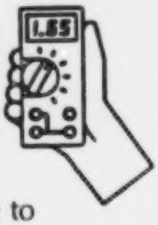
Product Handler

by Eugenia Sandoval- McGaw

I'm a product handler now at Mc Gaw. Before my title was inspector. I inspect the IV bags in the Excel Overwrap Department. What we look for is P.M., particles and matter. Now the machine is P.M. free because it has a filter, so we don't inspect for particles and matter anymore. We used to do pressure testing. We looked for leaks by visually inspecting the bag. Now, we have a machine that detects the leaks using voltage.



Before the title was quality control. Now, they changed the title to HVLD. If you want to get another job, or people who want a promotion have to compete for it and pass a test.

I am doing loading and house keeping, and I like my job. I hope the technology slows down a little bit in my area because I love my job a lot and want to continue doing it.

Delivering Materials

by Jose Castro- McGaw

I'm a material handler, my job is to drive electronic pallet jack and forklifts to deliver materials and production. I am responsible to be sure that the materials that I take from one place to another are the right items. Before I do it I have to check the labels or tags, read a lot number of exp. date, catalog number and check for damages.

How has it changed? Well, we have more machinery, more new products, more ideas from our managers because the company is growing up. Now I am studying because I need to learn English. This language is very important in my job and in all the USA so I can have more communication every where. I want to speak, read, write and understand very well.

Sterilization

by Julio Castaneda - McGaw

I started working back in December 1987. ly first job was a position as material handler n PIC at McGaw for about 2 years. hen I moved to Sterilization vhere I work now. It is the place vhere we cook the medicine. We :all it intravenous plasma. This nedicine needs to be **100 per-:ent pure.** The bacteria needs to e dead, otherwise the *bacteria will grow back.* I need to learn how to read, write, and speak good English. Also knowing English helps me with my job skills, my family, friends, and people around me. I enjoy the all good time with all of them. I will try to finish my GED sometime soon.

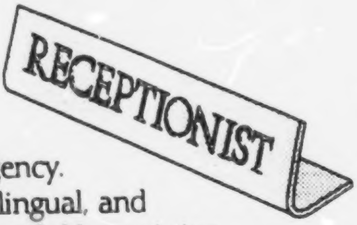
My Changing Work Area

by Felipe Gutierrez- McGaw

My work at McGaw is called PAB filing. Six months ago my work area was different. In the old room we had four machines running the same kind of solution and the same kind of bags. The air conditioning changed the air twenty times each minute. The temperature in the room didn't stay the same and the room was too small for four machines. Now, I am going to explain about the new area. We have two machines in each room. We can run different solutions at the same time and different sizes of bags-50 ml and 100 ml. The air conditioning changes the air 60 times a minute, now. The temperature remains stable and the work area is cleaner than before. We have phones outside of the rooms, so it is easier to mmunicate with the manager and the process erator. We learn new things every day and the company continues growing.

A Bilingual Receptionist

by Therasa Martinez-Dansk



Well, I have been with this company for one year and six months, and I was referred to them by a temp/agency. I am a receptionist, bilingual, and I do many things at work like assisting in human resources; putting in workers' company information and filling out forms. I type simple things, do translations, because 90% of the employees are Spanish speakers. Some know English, some don't care to speak it. The reception area is always busy, and I answer the phone all day long. I get the mail, open it, stamp it and get it separated for other departments like ACC receivable, ACC payable, traffic department and others. I run errands to the store to buy office supplies, get lunch, and take an employee to the doctors in an emergency. Many times I walk all day long from here to there and to the production floor. When there is an important phone call for the president or the vice-president of the company, at least 15 times per day, I go looking for them so they can talk on the cordless phone.

In some ways, I like my job. But some things are undone. We are five ladies in the office, but we count as four. Some days are a lot of stress at work and some days we don't want to come back.

I don't like to change jobs unless I have to. I would like to learn more things and improve my skills work serving others.

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New Changes In Technology at Fiberite

by Miguel M. Alaniz- Fiberite

I work for Fiberite. I have been working for Fiberite for 15 ars. I have seen so many changes in the past years, like doing so much paper work. Now, use the computer process to do paper work d to run some of the machines. We used to etal strap some of the rolls by hand, now we e a machine that can shrink wrap the rolls tomatically. Some of the machines on the roduction floor used to run manual pumps nd compress air. Now, everything runs by omputers and special machines. Now, Fiberite as changed in so many ifferent ways and ave made so many hanges to keep their ustomers happy. They ying together to nake more Quality and not Quantity. In the ast 5 years, I see workers taking safety more seriously. I would like to learn more about computers, so that I can do a better job and teach somebody else.

Since coming to JobLink, it has been good for me because I'm learning so many things that I forgot a long time ago. At Fiberite, I do weekly inventories of packaging and poly. After that, I check what items are low and place the orders by phone or by fax. They have to be done every Monday morning. At Fiberite, they implemented a new rule that I take very seriously, every time that I step into Fiberite property. The new rule's name is Zero Tolerance. I think that in the future the company and myself are going to do much better because the company is giving us the opportunity to get more education, learn more and e our job easier.

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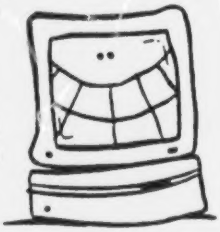
Switching to Computers

by Guillermo Avalos - Fiberite

I've worked at Fiberite for eight years. I have seen many changes through this time. When I started working in the Quality Control in-process lab, we used to do all the calculations by hand. In the last five years we started to use computers. At that time, we got basic training in how to use it and some statistic process control. We learned how to read and understand graphics, as well as, how to make them.



Since I came to JobLink, I have improved my English reading and writing. Now, I feel more confident when I talk to my supervisor. I understand better the information on the paperwork I have to deal with.

I'm very thankful for JobLink, and I strongly recommend to my co-workers to come and learn as much as we can out of this wonderful place.

Safety and Computers

by Sergio Pinedo - Fiberite

I have been coming to JobLink for the last three months, and I feel better when I speak English at work, or in the store, or with any other person at any place.

I have been working for Fiberite for the last 10 years, and the company is so different from when I started. The company has had so many changes, and one of the biggest I have noticed is safety everywhere in the plant. I think this is good for every employee of this company.

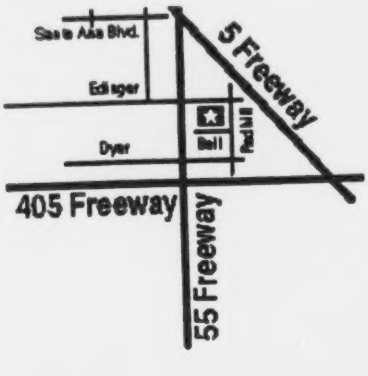
In the next five years, I believe we'll work with computers, and everyone of the employees is going to need more training in computers.

Old Students! New Students! All Students!

Please Come to

An Anniversary Celebration at the JobLink Lab

1201 Bell Avenue,
Tustin, CA
on
August 1, 1996
from
3:00 p.m. to 5:00 p.m.
Awards at 4:30 p.m.



All Students Receive a JobLink Certificate!

Special Attendance Awards for 40 hours, 100 hours, and 200+ hours.

Bring Your Supervisor or Co-Workers!

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JOBLINK LETTER

APRIL 1996

WRITTEN BY JOBLINK STUDENTS AND STAFF

A NATIONAL WORKPLACE LITERACY PROJECT

ARE YOU GETTING A RETURN ON YOUR INVESTMENT?

Chris Pitchess

Instructor

You need to stop and ask yourself if coming to JobLink has paid off for you? Are you doing a better job at work? Do you understand more English? Can you help your kids with their school work? If you are investing time by coming to the JobLink Lab, it is important to measure how you are benefiting. If your company invests in an expensive piece of equipment, the company has to measure how it makes the work easier, better, and makes the company more money. Since time for you is money, is coming to JobLink making your life better? This is the question we have been asking students in the lab. And this is the topic we are writing about in this newsletter.

Many employees who come to the Lab have made remarkable progress. Some students have gotten better jobs, some have received raises, while others have been rewarded with a good review. I hope you will stop and think about how JobLink is helping you. Maybe you could spend some time discussing this with an instructor or with Nadine, the JobLink counselor. We want to make every minute at JobLink pay off for you, so let us know what you want to learn. Remember at JobLink you are the boss!

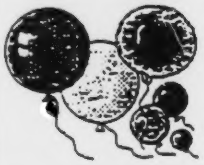
Over 273 students have enrolled in JobLink in 1996, and those students have studied over 4,568 hours!

I Didn't Talk Very Much

by Marleny Ovelda

Rosemount

When I started coming to JobLink, almost 2 years ago, I didn't talk very much. I was uncomfortable speaking in English. But that has changed. Now I say what is on my mind. I can talk to my boss, my co-workers, people in the stores, and even the INS officer who interviewed me for citizenship. Yes, last month I completed my oral interview and I will soon be"sworn in" to be a new U.S. citizen. Mr. Davidson, the plant manager, is surprised because I talk with him. I worked for him for a long time and I never said nothing. Now I talk with him. I have gotten a big return on my investment at JobLink. Don't you agree?



QUICK RESULTS

LUZ RENTERIA

MCGAW

I love to read, but I didn't do very well on the reading test I took at McGaw. I didn't know why. So, I went to JobLink, and I found out that you need to read different materials in different ways. Since the test was timed I had to work on reading faster. I had to learn to skim and scan. Well, I learned how to do that and with some practice I made great progress. Now, I am working on passing the GED test. It's about a 10 hour test. I have a study partner that I met at JobLink and we are working together. I have gotten a big return on my investment at JobLink.

MY FIRST AND SECOND JOBS
BY EUGENIO ECHEVESTE
MC GAW

When I got my first Job, I was 16 years old. At that time, I was younger than I am now, and I felt embarrassed that I had to work because all my friends weren't working. They were going to school in Mexico. Later on, I told my friends about my job and what kind of job I had. After 6 years of working in the same place, I came to the U.S.A., and I started to work in a big sailboat factory. It was a good experience for me. I worked for this company for about 1 year. After that, I went to work at Mc Gaw, Inc. where I have been working for the last 7 years. I am coming now to the JobLink Lab to improve my skills to get a better job at my company.

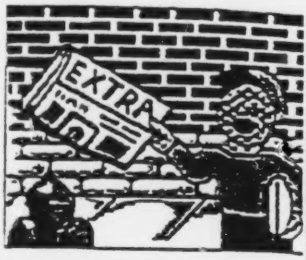
Going on to College
by Fidel Gutierrez
Sunset Environment

My name is Fidel Gutierrez. I have been coming to Joblink to make my skills better. I have learned: new vocabulary, spelling, to work on the computer. I hope to master computer programs, do better memos, use less words to put across my thoughts, and continue on to college for an AA degree. For the time I have spent in the JobLink Lab, I feel I have gotten a pretty good return on my investment.

14 Years on the Job
By Bulmaro Montelongo
Fiberite

My name is Bulmaro Montelongo, and I work at Fiberite Company in Orange County. I started April 15, 1982, and I work very happily there with my friends. My job is very easy. I like coming to the school to learn math and English. I have never tried to study English. My sons need help with home-work and math. I don't have a problem to help them with their homework. I can do it. I hope to build my skills by coming to the JobLink Lab.

Jose Luna and Joblink
By Jose Luna



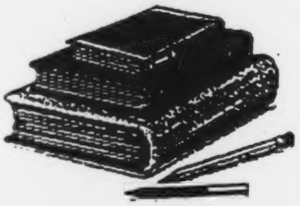
My name is Jose Luna. I come to learn how to write, how to read, how to learn about computers and get to the level that my company is asking of me. I come every Monday and Wednesday, but sometimes I come on different days, like today. Today is Tuesday 3/5/96, and maybe I would like to come tomorrow and write around 10 or 20 minutes. And in the future, I hope I learn about everything to pass my test and get a better position, and have more opportunity in the plant. I am spending time at JobLink and I expect to get a big return on my investment.

The Life of Man
By Rodolfo Herandez.

I have been working for my company for 17 years, and I am very happy with my first job because it gives me enough money. I have two girls. They are six years old. I would like to buy a new car. I would like to learn more English, so I can get Very good job or get the the opportunity to be a supervisor.

JOBLINK AND ME
BY GRACE HWANG

JobLink has helped me to speak better English so I can get a better job. I can write a good sentence. In my job I need to measure so that I can cut cable. At JobLink I have learned about measuring and math. At Joblink I have learned more about the computer and more English.



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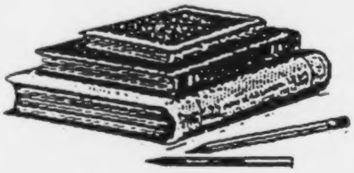
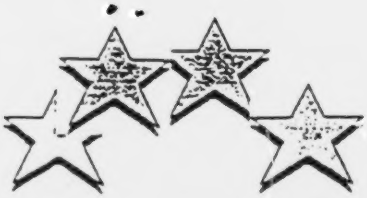
GETTING ALONG BETTER
BY HUONG NGUYEN
SORIN BIOMEDICAL

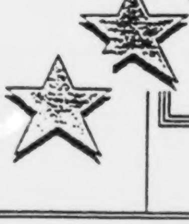
By coming to the lab, I have learned more English which helps me a lot at work. When you know more, you can do your work better. When I had my last review, my supervisor said that I get along well with my co-workers. I think this is true because now I can understand better what they say to me, and they understand me better, too. So, I recommend Joblink to all my co-workers at Sorin. I think team work would be improved if all the team members could take classes at JobLink.

READING AND WRITING MORE
JOSE CASTRO
STEELCASE

Since I have been coming to Joblink, I have learned how to read better. Before when I tried to read, I didn't understand anything I read. Also I have improved my English, communication and conversation skills. My writing has also improved because before when I wrote something, I didn't understand it myself. Besides this, I have increased my vocabulary by learning new words. Now I feel more comfortable when I talk to a new friend and am able to talk longer because of the new words I have learned. So my opinion is, that I am getting a good return on my investment of time at Joblink.

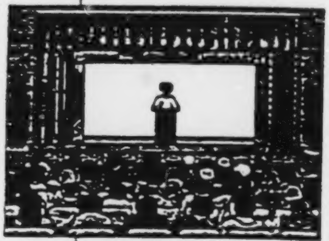






A Very Good Return
by Cheong Nam Li
Newport Corporation

"How do you make your English conversation skills better?" The answer is "Practice them often and keep practicing continually!" That is the successful way to improve your English conversation skills! The Joblink Center is the best place to do that! There are many good instructors to help you correct your pronunciation, to comprehend the reading material, and to improve your writing skills. You can learn math or citizenship programs if you need it. Since I have been coming to Joblink Center for three years after work, I have improved my English conversation and my writing skills are much better than before. I can communicate more easily with my co-workers and manager which is much better for my job. The return on the time investment has been great for me. Thanks to all the instructors of the Joblink Center!



A RAISE ALREADY
BY FRANCISCO FLORES
MCKIBBEN

I have been coming to Joblink only one month, and now I understand a little more English. The orders or instructions at my work are in English, and now it is easier for me to follow them. I can have the best benefits at my job by learning more. I still need more English, but I have already gotten a raise!

THERE IS NO END TO WHAT YOU CAN ACCOMPLISH IF YOU DON'T CARE WHO GETS THE CREDIT.

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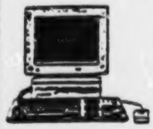
Using the Computer- My ROI

by Macaria Overby

Ricoh



Coming to JOBLINK has helped me a lot. I need to do better to write, to read, and to speak English on the job. At my company you can get a better job the more that you know. If I can use the computer, I can get a better Job! So every time I come to the lab, I spend some time on the computer. Each time I use the computer I feel more comfortable with it. I want to move ahead at work and one of the ways of doing that is to come to JobLink.

AN ROI FOR WORK AND HOME

BY RAUL ZAVALA

MELMARC COMPANY

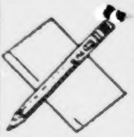
I understand more in English. I am making more money at my work. Now I can help my children with their homework. I understand enough to pay my bills and take care of my personal papers. I have a better position at my job and make money. My manager speaks to me only in English, so I have to improve my skills. I'm happy to have the opportunity to prepare myself for citizenship. I like the idea of voting in the future. You can see that coming to JobLink has been paying off for me. I have been studying at JobLink using tapes, talking computers, books and working with teachers and other students. I have been getting a return on my investment in both my personal life and at work.

COMMUNICATING BETTER NOW

GERARDO PARRA

MCGAW LABS

Joblink is giving me the opportunity to learn more about my English. Now I speak and read more. I can communicate more with people all around me. I'm planning to find a better job because I have the better tools to do it. I feel better than before in my job because I can read and talk with everybody. Now I believe that I deserve a raise in my job because I am not as shy as before. I can ask anything that I want. I can speak to everybody all because I have better communication and I understand more than before. I like listening and watching T.V. and know all about the other places and other people. Coming to JobLink is giving me a pretty good return on my investment

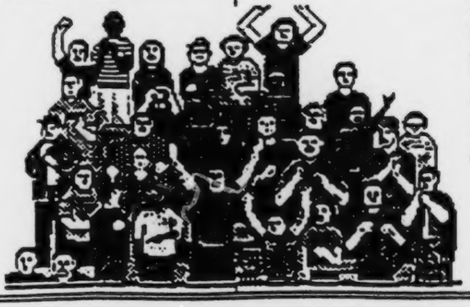


CATCHING UP WITH MY KIDS

BY SHIRLEY [illegible]CRUM

MCGAW LABS

Joblink has helped me get back in the habit of going to school and renew my reading, writing and math skills. I'm excited because I am learning the keyboard and some computer skills. So now when my kids ask me something about math or whatever, I'll know. Also the instructors are very nice and patient. It is a little scary to go back to school when you have not studied in a classroom for many years. Lots of things have changed. But let me tell you they have changed for the better. I am grateful to my company for telling me about JobLink. The classrooms are warm and welcoming. Everybody works at their own speed on the things they want. People have smiles on their faces and there is so much happiness. So why don't you come join us at JobLink you'll be very surprised! Thank You!



JOBLINK LAB LETTER
NOVEMBER 1995
"First Impression"

The Magic Table
Chris Pitchess- Instructor

There are many things I love about our new JobLink lab, but one the best things is our wonderful meeting ble where we hold heart-warming iscussions, stimulating arguments, and thusiastic debates. Almost anytime during e day, you will find students, teachers, riters, computer technicians, and a host of isitors sitting around this odd-shaped table stening and talking to each other with open earts and keen minds. We have especially onderful sharing at the end of the day. As he light outside fades, we all come together some illuminating conversation.

One evening when we had finished earing some rather extraordinary stories bout students and their first impressions of he United States, we decided that these first mpression stories should be the theme for our October newsletter. If you enjoy these stories, perhaps you will share your story. We would love to hear your from you! We would love for you to take your place around the "magic" table.

The Market
Maria A. Lopez

I want to write about my first impression of the U.S. The first day I walked down the street, I felt afraid because I didn't know how to return to my house. I remember I saw a big store. The first store I saw was the [illegible]er Brothers Market. I saw [illegible] beautiful houses. I felt afraid because I saw many people and many cars. I was glad when I found my way home.

Here a Short Time
Cat Le -Tycom

I have been here since June 21, 1995. When my plane landed at the airport, I saw the large and modern airport. The weather was very hot. It was hotter than Vietnam. After I left the airport, I went to Tustin City. There were a lot of my friends there. They were very happy when I came. But they talked quickly so that I didn't understand them. We went to a nice park in Tustin City. A park where I now go every morning to do morning exercise. I have met some American people at the park. They are friendly with me and that warms my heart.

On August 1, 1995 I went to school. I came to JobLink. My first impression at JobLink was that the teachers were very close to me. They helped me to read, to write and to speak English. I can write, read, listen and speak some English. I found a job in Tycom Company, and I bought a car, and I rented an apartment. I feel very happy. My first impressions of America are very pleasing.

Freeways
George Arroyo- Steelcase

I was 14 years old when I came to the United States. It was 1969. I came with my family. I have 5 sisters and 4 brothers. My father and brothers were working on a ranch. I was very excited about coming to the U.S. There were so many cars on the freeway. That is what surprised me the most. Now I drive the freeways and sometimes I think about that first time.

An Afraid Woman

Maria R. Lopez -Leach Company

I'm Maria R. Lopez, and I am writing about when I came to the U.S.A. My first impression is when my husband drove onto the freeway. I saw many cars and many houses on both sides. My first day I was afraid because I came here illegally. When somebody rang the doorbell, I was nervous. I never opened the door. I only looked out the window. At first I missed my family, but later I had more communication with my parents. In Mexico, my house had one bedroom, a kitchen, and one bathroom. In my new house, I have a kitchen, living room, 3 bedrooms, one bathroom. Everything is different here.

My Problem

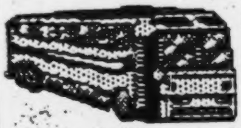
Bertha Garcia -Ricob

Everyday at five-thirty, I go to my work. My friend and I work on the filling line until eight thirty. Then we go to the lunch room for a break. Then we go back to work until eleven thirty when we have lunch. Every day I have the same problem. My supervisor doesn't understand what I say, so we have to get an interpreter. This makes me feel bad. So, now my friend and I drive to school at two thirty when we finish work. I come to school because I want to improve my English. I come even though I am very tired. After school I go to my house. I have a lot of work to do. I clean the kitchen and the bathroom. My father lives in my house and so do my three sons and one big dog.

My First Day in the U.S.

Silvia Moro -Steelcase

I was 16 years old when I came here. I came with my mother and 2 sisters. We traveled by bus for 44 hours. We traveled for 2 nights and 2 days from Mexico. When we finally arrived, I wanted to go home. Everything was so different. The houses were big. The markets were big and clean. Everything looked good, but I still wanted to go back home.

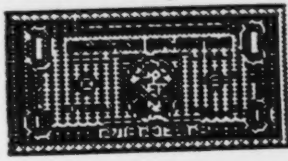


I got here and I got a job as a baby sitter. Then I worked in a furniture factory. Now I work at Steelcase. Things are better for me. I will always miss my home.

The Changes

Eugenio Amescua - Steelcase

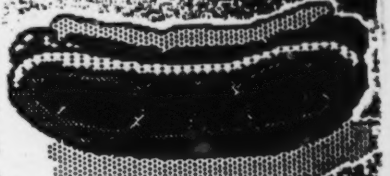
When I first came to the United States, I was really afraid because things were different. The houses, freeways. language and the money. In Mexico, I lived on a small ranch. Now, I had to live in the city. However, the first and most important problem was communications because the English language was really difficult for me, and right now I am still uncomfortable for that reason.



Everything So Different

Jose Anaya - Steelcase

I felt different when I came to the U.S. I saw bigger houses. I was afraid not to understand English. I see the busy freeways. I also saw restaurants. I went into the restaurant and the food was even different from the food in Mexico.



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JOBLINK LETTER
September 1995

WRITTEN BY JOBLINK STUDENTS AND STAFF

A National Workplace Literacy Project

trigonometry

A NEW LAB BUT SAME HEART

BY Chris Pitchess

Instructor

On August 1, 1995 the doors to the new JobLink Lab opened. We have over 80 students enrolled in the lab, and we have two new teachers, one new counselor and two new lab assistants. Jose is the new math teacher. Jose teaches math at Century High School and after school comes to the lab to help students with basic math, algebra, and some students are even studying calculus! George is from Torrance, and he drives all the way to Orange County on Monday and Wednesday to do some very special pronunciation classes and individual tutoring. Nadine is the new counselor, and she is here to help you with career planning and making career decisions. Dong and Thaun are our new lab assistants from Orange Coast College, and they both help out in many ways every day! **Peg, Marty and Barbara** are all back and anxious to see everybody.

We have 12 new multimedia computers, several new bookcases filled with great books and tapes and beautiful new lab furniture that is unbelievably comfortable. We are certainly new and different, but one thing has not changed and that is our heart. We still have warm and welcoming teachers, staff and students, and that, I think, is the most important thing. So if you have not been by to visit us, we would love to see you. We are open Monday to Thursday from 12 to 6:30, and Friday from 9 to 1. (A map is on the back.) I hope to see you very soon!

WHY I COME TO JOBLINK

Lucilla Cannon

Printronix

I have been coming to JobLink almost everyday for some time. I come to study and improve my writing and reading. I come to participate in the conversation classes and to study math with the new math teacher, Jose, and the other students in the class. My friend was confused about some math problems when he went to the college, but when he came to JobLink, he understood the math after two times. It helps me because the teachers explain very clearly, and you can ask them questions.

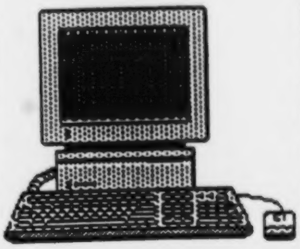
There is always something going on at JobLink. The OCN News was here last week and the reporter, Jennifer, asked us questions and then did a story about JobLink for television. We sing and work and joke and talk and listen and learn together. Don't you want to be part of our learning team?

COMING TO JOBLINK- A NEW STUDENT

by Jose Luis Anaya

Steelcase

It is nice to come to be a student here. There are nice people to help me to learn more. I use the computer when I study. I also use lessons on the television. I learn to speak better by having lots of conversations. This is the first time I have been a student here, and I plan to continue.



JOBLINK LAB LETTER

MAY 1995

A Dream Becomes Reality

Chris Pitchess-Instructor

When the Learning Center opened in November 1993, we all talked about having a lab that would hold all the students who wanted to attend, a lab that had some of the latest computer, audio, and video programs and a lab that had materials to help students succeed and advance on their jobs. Well, guess what? Our new JobLink Lab will do all those things and it will be opening on August 1, 1995.

The new JobLink Lab will open at a w location on Bell Avenue, right off of Red Hill (a map is on the back). We will open Monday to Thursday from 12:00-noon to 7:00 P.M. As always, you will be able to come to the lab when it is convenient for you.

Beginning in July we will have a career counselor at the lab. The counselor can help you design an educational program that is right for you. Please call or stop by in July and we can get you registered for new classes beginning August 1.

Many thanks to all JobLink Lab students and supporters who have helped to make our dream our reality!

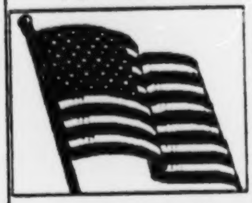
STUDENTS WIN SCHOLARSHIPS

MARTY HOLLER- INSTRUCTOR

On Thursday evening May 11, 1995, six oLink Lab students were honored by Coastline Community College and awarded the Marie McCollum Scholarship. The lab students included: Maria Juvera, Printronix, Marleny Oveida and Minh Vo, Rosemount Analytical, Roberto Gonzalez, Steelcase Corporation, Hoang Truong, Sorin, and Francisco Velasquez, Jammin. Congratulations and best wishes to these students and many thanks to the family of Melinda Marie McCollum for establishing this extraordinary scholarship.

CITIZENSHIP AT LAST

MARLENY OVIEDA-ROSEMOUNT



In April classes began at the JobLink Lab to help students become U.S. citizens. I have always wanted to be a citizen because this is a good country. I have lived in the U.S. for many years. Now I want to become a citizen because I want to be more comfortable and secure and because I love this country.

Two New Citisens

Jaime Madrigal-Newport Corporation

I have always wanted to be a citizen of the U.S. because I know I will have more opportunities. I can vote for the President. I can have more benefits. I have lived in the U.S. for 18 years. I have been married for 15 years. Now my wife and I have filed our applications to become U.S. citizens. We took the classes at the lab. We learned a lot and received all the help we needed to fill out the papers and to get our pictures and fingerprints. It was easy and it feels great!

won first place again. Next, they went to the Southern California Championship. They played 4 games and lost one of them. They got 3rd place.

I love my family and my work, and I thank God for all His blessings.

BABY POWDER CAN BE DANGEROUS

BY DR. RICHARD HOUGHTON

Remember when using powder on your baby- apply the amount of powder you wish to use to your own hands and carefully apply to the diaper area. Never sprinkle powder on your infant-like you would salt your own food. Never allow powder to enter the nose or throat. It can cause cold-like symptoms and chemical pneumonia. Be very careful with the use of baby body powder.

A Returning Student

Jose Edwardo Reyes -Deft

I used to come to the lab almost everyday. I came when I was a factory worker at Deft. I came to learn as much as I could. I applied for a new job. I was promoted to a lab technician position. This was a big promotion for me. Now I see I need to learn more about math and vocabulary for my new job so, I came back to the lab to study.

A Scholarship Winner

Marleny Ovieda- Rosemount

When I finish my work at my job I'm so happy to come to class. Everyday I learn something different. I enjoy the conversation class very much. On May 11, I received a scholarship for English. This was a special time for me. I really have appreciation for this honor. A big thank you to my donors.

ANOTHER WINNER

MARIA JUVERA-PRINTRONIX

I was one of the winners of the Melinda Marie McCollom Scholarship. I am very thankful for this award. I have been studying at the JobLink Lab for more than one year. I have been promoted from assembler to warehouse operations. I am working and studying very hard.

Citizenship/Voting

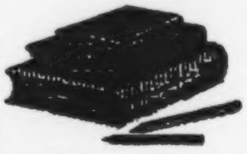
Lucilla Cannon- Printronix

I wish I had more time to spend at school, but I work too much. I have been in the U.S. since 1965. I have been a permanent resident for many years. Now I want to be a citizen. I believe I want to make some changes in this country. To make changes you have to vote. So I want to be a citizen and vote.

IMPROVING MY ENGLISH

TUYET HOANG- PARKER HUGHES

I'd like to improve my English because I think my English is so weak. I want to get quick by conversation and understanding English. I have been coming to the JobLink Lab for three months. Because I work second shift I can only come for one hour each day-then I go to work.

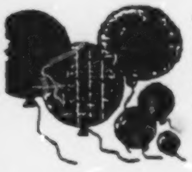


One time when I went for a job, they say they won't hire me because I don't speak English. I do not want that to happen again. That is why I study English.

The thing that helps me the most are the story tapes from the lab. The tapes help me learn new words and new ideas.

A WISE MAN WILL MAKE MORE OPPORTUNITIES THAN HE FINDS.

ENGLISH IS IMPORTANT TO ME
TANIA NGO-RICOH



I came to the USA in 1989. The first six months every thing was very new with me. I couldn't speak or understand English because I was very nervous, so I uldn't find a job. I felt so sad. Lucky for me, pplied for a job at an agency. They didn't ed English too much. I did medical pplies assembly and I went to study English ter work. I learned English for a few onths, then my dad had a stroke and stayed the hospital for one month. I quit my nglish class to take care of him. It was very ifficult to find a new English class because so any people wanted to take that class. Now, go to learn English in the JobLink Lab with y teacher Chris. I love the class. I hope I n speak, read and write English perfectly. hank God for giving me this kind person to me learn English because it's very nportant part of my life.

etters from General Monitor
Marty Holler -Instructor

Since I left the JobLink Lab in February, have been teaching at General Monitor. At eneral Monitor and the JobLink Lab we ave all been doing the same lessons. We are rying out new ideas for lessons that will help mployees on their jobs. The mployees from General Monitor read ome of the JobLink newsletters and wanted to share their feelings and ideas with you. So, I am sending you these letters to include in the JobLink Lab Letter for May.

PASS THE PICTURE
CHRISSY NGO-GENERAL MONITOR

Since I have been studying in this class I [illegible]m so many things that help me in my work. The lesson I like the best is the pass the picture and writing because this in this job you have to work together. Also the lesson teach me how to write correctly.

The Reading Habit
by Yong Suarez-General Monitor

I have learned a lot in this class. I have learned about vocabulary and about communications. Also I have the reading habit too. It also helps me in comprehension in my work area.

Tell Me a Story
Van Phrakonkham-General Monitor

The workshop that I like best is listening to and telling a story because when I listen to a story, it help me know how to pronounce the words correctly. Telling is part of listening to a story because you find out how much you remembered.

IMPROVING FAST
DUC HUYNH-GENERAL MONITOR

At the company's English class I like the workshop best listening to and telling a story. Now, my English has improved a lot from a few months ago. I feel more confident when I talk to my co-workers, like the young lady who sits beside me. I practice and read books at home with my kid. Sometimes she helps me and corrects my pronunciation of new words I do not know. I hope that they continue to have this class and I will improve fast and better my skills.

Listening and Speaking
Juan Vo-General Monitor

Working in this class has really helped me. Before I was timid when I talked to American people. Now I have more confidence and my accent is better. Totally-the class has helped me. The teacher taught me. She's very kind. I wish I had time to go to school and study more.

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JOBLINK LAB EXAMINER

MARCH 1995- WRITTEN AND EDITED
BY JOBLINK LAB STUDENTS••••••• FIRST EDITION

SOME THINGS ARE CHANGING

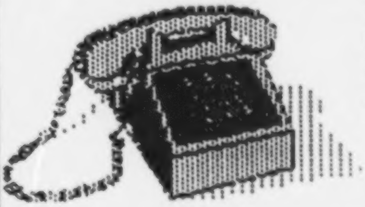
BY CHRIS PITCHESS-INSTRUCTOR

The Learning Center Lab has been renamed. The new name is The JobLink Lab. The new name means that the lab can help you with your job. At the lab you can learn skills that you can use in the workplace.

Since the new classes began in February, we have been having fun at the lab. We have been working on team building skills. We took Polaroid pictures of each other and wrote stories. We did Origami- that's Japanese paper folding- and we made cups, airplanes, bug catchers, windmills, and boxes- all from paper. We learned new vocabulary, participated in lots of conversation, and read some interesting stories. The students also wrote all the stories for this newspaper and put the entire newspaper together using the computer. We have been busy!

On March 20th a new class will begin. The class is a vocabulary class. It is called "Winning with Words at Work." If you would like to build your vocabulary, learn how to use a dictionary, create your own personal dictionary, and learn some workplace idoms, maybe you would like to enroll in this 6 week class.

If you want to work on your reading, writing, or math we can help you with that too. The JobLink Lab is open Monday to Thursday 2:00 to 6:00. Call or come by and we'll get you started.



Lab Phone Number 253-1720

The Learning Center Now JobLink Lab

by Ba Do
Printronix

I didn't go to JobLink Lab the last two weeks because I had too much work to do for preparing our Printronix inventory. I missed my excellent, active teacher Chris. Now I go back to conversation class enjoying about the articulation, reading, writing, and comprehension work. I'll hope I have time often to study at JobLink Lab because it helps me improve my English.

My Family And My School

bY Jose Huezo
Printronix

I work five to six days each week. On the weekend I take care of my family. On the weekend I take care of my three kids. I take them to the park, movies, and read stories, write and cook for my kids. I cook chicken soup and barbecue ribs. I make juice from oranges and apples. Sometimes I cook for my wife. So I can take better care of my family, I like coming to the JobLink Lab. Here I study English and reading. When I have a question my teacher answers my questions and if she does not have the answer, she will find it for me. I need to learn more when I speak English.

AN OPPORTUNITY

by Luis Rubio

I really like to attend school, because I am learning how to speak correctly in English and how to write it. I also like it because education is the key to better job opportunities and success.

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A NOTE FROM MS. PEG
BY PEG DONNER-INSTRUCTOR

Hello, students! I think of you often. When I close my eyes, I can picture you practicing your articulation exercises. Are you growling like a dog in front of your mirror when you brush your teeth? Are you kissing and smiling at someone you love from across the room? Does your family think you're crazy? Probably, but you and I know how your pronunciation improved as we practiced these exercises! Keep at it! I look forward to speaking with you soon.

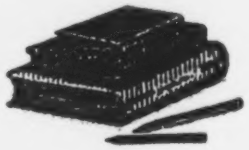
A What Do You Want to Do At JobLink Lab?
By Tuyet Hoang
Ricoh

I came to the JobLink Lab a few weeks ago. But I was really surprised that I have been liking this class very much. I have studied many thing- such as conversation. We also sat around the table and made a story. We passed around pictures and each person in the group helped to write the story. I also have studied the vocabulary at computer, because I can learn many new words. It is interesting to study at the JobLink Lab.

A What I Have Learned at JobLink
Calvin Williams

I'm excited to be coming to the JobLink Lab because it's helping me a lot on my job. One day my goal is to really understand what I read. Everyday I learn more and more words. I have improved my vocabulary and I communicate better with my partner at home. By continuing in school I will understand more and be able to talk to people better. I plan to keep on with school and go to college. I think that,"The sky's the limit!"

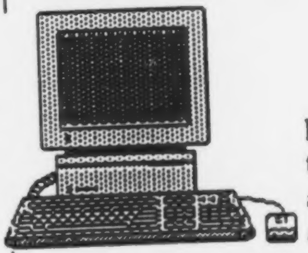
Read On!
by Stephanie Asch
University of Southern California



I volunteer at the JobLink Lab on Tuesdays and Thursdays. I have only been coming for a short time, but I can already say that I am very impressed by the students. You are so hard-working and dedicated. I have enjoyed working with you and learning from you so much. I am glad I have this opportunity to volunteer here, and I am looking forward to working with you in the future. Keep reading, writing and talking!

Teacher #1-Ms. Chris Pitchess
Maria Juvera
Printronix

I never liked school, but since I met Chris I felt better. I am excited to go to The JobLink Lab when it is the day for me to go. Everything I have learned has helped me to do good work. Thank God I have a wonderful job! Don't forget a good teacher makes good students.



A Packer at Deft
Andres Dominguez

Right now I work at Deft. I am a packer. I like this job very much. I am a temporary employee, and I am working hard to become a permanent employee. I have been going to the JobLink Lab to improve my English and vocabulary. I use the computer and practice speaking in conversation class.

A FLASH FROM BARBARA
BY BARBARA GIBSON-INSTRUCTOR

Dear Students- I hope that you are enjoying this new semester and your conversation classes. I sure do miss all of you, and I am looking forward to working with you again in the new lab. In the meantime, keep on reading and speaking your English.

Appendix H

Uplink Newsletters

UpLink
JobLink Newsletter
An Occasional Newsletter for Managers of JobLink Partner Companies

JOBLINK OPENS TWO NEW SITES AT PARTNER RANCHO SANTIAGO

Two new Santa Ana sites will join the JobLink Lab @ Steelcase in Tustin. Both of these are **Rancho Santiago College** facilities that already serve business and adult education clients.

The Business and Industry Services Center (**BISC**) at 901 E. Santa Ana Boulevard will add JobLink to a wide range of business services including the Small Business Development Center, the Rancho Santiago Customized Training Program office, and the **BOSS** Program (training displaced aerospace workers how to start their own businesses). JobLink students at **BISC** will be right across the street from the new One-Stop Career Center located in the Santa Ana Transportation Center.

The Rancho Santiago Centennial Education Center (**CEC**), which serves **20,000** adult students, will open a JobLink Lab at its facility in Centennial Regional Park at the corner of Fairview and Edinger in Santa Ana. Students at this site may also decide to take advantage of one of the largest adult education programs in the state, which is housed at **CEC**. The JobLink Lab will be located in Room 114A.

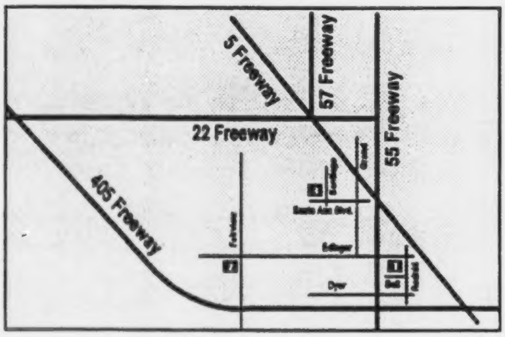
BISC Open House
901 E. Santa Ana Blvd. SA, CA,
February 14, 1996 from 12 p.m.-5p.m.

All interested employees and employers are cordially invited to attend.

1 **JobLink Lab**
(located at Steelcase)
1201 Bell Avenue
Tustin, CA • (714) 258-0418

2 **Centennial Education Center**
(located within the regional park)
2900 W. Edinger (at Fairview)
Santa Ana, CA • (714) 564-5000

3 **Business & Industry Services Center**
Rancho Santiago College
901 E. Santa Ana Boulevard
Santa Ana, CA • (714) 564-5202



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EMPLOYERS PROVIDE INCENTIVES TO JOBLINK LAB STUDENTS

Deft offers a scholarship to the company's outstanding JobLink student each quarter. This scholarship is for two hours of paid time per week to attend the JobLink Lab.

Three employees from **Newport Corporation** are currently on scholarship time. These employees must put in an equal amount of their own time to earn up to two hours per week of company time to attend the JobLink Lab.

A special worksite training module at **Rosemount** requires employees to spend 1.5 hours at the JobLink Lab between classes at Rosemount. The JobLink visits include structured assignments designed to reinforce the classroom work. This is the first offering of the new worksite module, "Workplace English as a Second Language."

WE OUGHT TO BE IN PICTURES AND WE ARE!

Two JobLink videos are available for sharing our story with others who might benefit.

The JobLink Recruitment video is designed to attract new companies to the JobLink partnership. This video features:

- Rand Scherff, Manager,
  Logistics Division
  Steelcase
- Robert Kleist, Chief Executive
  Officer and Juli Matthews,
  VP of Human Resources
  Printronix
- Ed Langley, President (former)
  Newport Corporation

Special thanks to all of our video stars for their time, energy and kind comments. These videos were produced for JobLink by the excellent crew at Golden West College Telemedia Production Center and New Media Center.

We also have copies of the **CNN** piece on JobLink which features employees from **3M HealthCare CDI and Steelcase**. Call the JobLink office for copies of any of these items.

JOBLINK WEB PAGE UNDER CONSTRUCTION

As part of the JobLink Home Page on the World Wide Web (**WWW**) each partner company will be featured on their own page. Partner pages will focus on partner's involvement with JobLink and other related training initiatives.

Partner companies that have Home Pages of their own can have a link to those pages built into their JobLink page.

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Companies interested in building a Web Page can call Tony Salas at JobLink for advice and help. Tony and his crew can even build a separate Home Page for you on a contractual basis, if you wish!

Ultimately, the JobLink **WWW** site will be used for distance learning students who access the JobLink program from sites all over the world.

WORKSITE MODULES AVAILABLE TO PARTNER COMPANIES

Six new worksite modules are currently under development. This brings the entire list of JobLink Worksite modules to:

Learning Strategies
Becoming a Better Team Player
Getting Ready for SPC
Workplace ESL
Active Listening/Feedback
Making Suggestions
Math at Work
Conflict Resolution
Problem Solving

These modules are designed to help employees who are literacy students improve their performance on teams at work. Reports from the first year of delivering these modules have been good with comments like:

> "Employees are speaking up more and asking more questions"

> "Employees have more self-confidence"

> "We're so pleased to see more of our employees going back to school or going to the JobLink Lab to improve their literacy and basic skills."

TIPS FOR GETTING EMPLOYEES TO USE THE JOBLINK LABS

- **Take a Tour**
  Several companies have brought employees to the Lab, or released them early from work to come over for a tour. In the last few months, we've entertained tours from **3M HealthCare CDI, Steelcase, 3M Surgical, General Monitors, Rosemount and Deft.**
- **Recognize attendance as part of your company's recognition or incentive program.**
- **Let us come and recruit employees during a special employee meeting or a lunch break.**

SUPERVISOR SERIES KICKS OFF NEW JOBLINK INITIATIVE

Supervisors are critical to successful employee training. Not only do supervisors have the ability to motivate employees to seek training or education, they are also key to the transfer of new skills to the workplace.

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A series of brown bag lunch workshops will be hosted by JobLink to familiarize supervisors and leads with the JobLink project, while providing valuable training for them.

The first in this series was

The Changing Role of the
Supervisor in the Team Environment
Presented by Dave Burkhart of Steelcase

Dave has coached many Steelcase supervisors through the transition to a team environment. He shared his expertise with a group of 30 supervisors from partner companies at Steelcase on Monday, January 29.

COMPANIES ADD COMPUTERS TO LIBRARIES

All JobLink partner companies have worksite libraries that contain a wide variety of reading material. It is a great way to support and encourage reading and **....MORE READING MAKES BETTER READING!**

Now many JobLink partners are adding computers to their libraries.... **Steelcase, Deft,** and **3M HealthCare CDI,** and **Newport.**

Soon these computers will be on-line with the JobLink Lab and ready to serve students with computer-based literacy activities.

The next Supervisor workshop, on February 21 at 10:30 a.m., will be

Put Power in Your Presentations
with Powerpoint
A Hands-On Primer for Using this Great Tool

Hosted at the JobLink Lab by **Tony Salas, JobLink's Technology Supervisor** and **Dave Lalor, Supervisor, 3M HealthCare CDI.** Participants will leave with a finished product!!

Registration is limited so call early or fax a registration to JobLink at:
FAX (714) 258-7304
Phone (714) 258-0418

Workplace Literacy Grant Program Partners

Business & Industry Services Center
Coast Community College District
Coastline Community College
Deft Inc.
Fiberite
Irvine Valley College
Mallinckrodt Medical Inc.
MD Pharmaceutical
Newport Corporation
Polyclad Laminates, Inc.
Printronix
Rancho Santiago College
Rosemount Analytical, Inc.
Steelcase, Inc.
3M Dental Products
3M HealthCare CDI Products
3M Surgical
Waste Management, Inc.

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UpLink
JobLink NewsLetter
An Occasional Newsletter for Managers of JobLink Partner Companies

DISTANCE LEARNING : A DREAM BECOMES A REALITY

Chris Pitchess, the JobLink Lab Coordinator, has been dreaming out loud about a distance learning system for JobLink students. This system will allow a student to work with JobLink teachers through a computer-to-computer connection and complete learning activities from home or work site. Five JobLink Partners are eager to start: **Deft, 3M Healthcare CDI, 3M Dental, M.C. Gill, Newport, and Steelcase.**

COMPANY LIBRARIES GROW

The second round of books and materials is being added to the JobLink Partner libraries...and libraries at six new JobLink affiliates are being started this summer. In addition to funds spent by the Partners on this project, $15,000 of JobLink funds will be used to enhance the libraries at partner companies.

METROLOGY PROTOTYPE UNDER DEVELOPMENT

A special multimedia metrology module, focusing on the use of the caliper, is under development at the JobLink design studio. This project was initiated by a request from Steelcase, but many Partners have confirmed their interest in a training program that can train workers to use the 6-10 most commonly used measurement instruments. After the prototype is finished, we'll be looking for funding to add other tools to the segment on the caliper. Call Tony Salas or Christine Taylor at the JobLink design studio if you're interested in helping or want more information about this project.

Louis V. Gerstner, chair and CEO of IBM estimates that companies must spend $30 billion a year on remedial education, while they lose $25-30 billion a year because of worker illiteracy.

Full time workers with the literacy level of a high-school graduate earn approximately 50% more than full-time workers at the lowest level of literacy, who have fourth grade skills. (This is the level that 20% of the US population is at)

U.S. Department of Labor reports that basic skills training represents just 1% of the training provided to employees of companies with 50 or more employees.

The National Adult Literacy Survey of 1992 found that 1/4 of the adult population cannot read, write, or do math well enough to take a simple test.

3M DENTAL PRODUCTS DIVISION RECEIVES ISO 14001 CERTIFICATION

3M Dental was the third manufacturing facility in the U.S. to receive the new ISO 14001 Environmental Management System certification. This new certification, which is still in draft, audits companies' processes for compliance with all applicable government environmental and hazardous materials regulations. Congratulations!

SPECIAL THANKS

The JobLink external evaluator, Heide Wrigley, was in Orange County July 1-3 visiting with Partner companies and interviewing JobLink students. Her comments and suggestions are being compiled as this newsletter goes to publication. Special thanks to the following JobLink supporters who found time in their busy schedules to share their thoughts and ideas with Heide:

Dave Lalor, Supervisor: 3M Healthcare CDI

Dave Davidson, Dan Rowland, and Larry Hinds: Rosemount Analytical

Jodi Ledbetter: Fiberite

Irene Sachs: C & C

And all the JobLink students at the Lab who spent time with Heide.

What are the hallmarks of the high performance workplace?
According to the Office of the American Workplace:

- Responsibility is pushed down to front line workers
- Information is provided to workers so they can exercise autonomy and discretion
- Workers are given a stake in the performance of the organization
- Worker-management relations are based on trust, mutual interest, and cooperation
- Focus on satisfying customers, improving quality, and adapting to change
- Employment security strategies recognize the value of workers to long-term economic performance
- Investment made in training and retraining to develop workers as critical business assets
- Safe and supportive work environment is provided for workers

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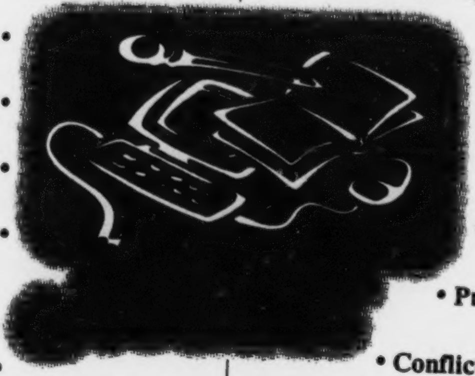
JOBLINK: A COMPREHENSIVE PROGRAM FOR IMPROVING WORKPLACE LITERACY

THE JOBLINK LAB AND DISTANCE LEARNING SYSTEM

Technology-Based Individualized Training on the workers time at the worksite or a JobLink Lab or via the World Wide Web.

- **Computers**
- **Websites**
- **CD-ROMs**
- **Books**
- **Books on Tape**
- **Teachers**
- **Tutors**
- **Video Tapes**
- **Cooperative Activities**
- **Conversation**



[illegible] | **Citizenship Program** | **[illegible]**

WORKSITE TRAINING MODULES

Stand-up Training Modules providing 9 hours of training at the worksite

- **Improving Effectiveness on Teams**
- **Learning Strategies**
- **Team Communication**
- **Active Listening/Feedback**
- **Making Suggestions**
- **Problem Solving**
- **Conflict Resolution**
- **Workplace English as a Second Language**
- **Getting Ready for SPC**

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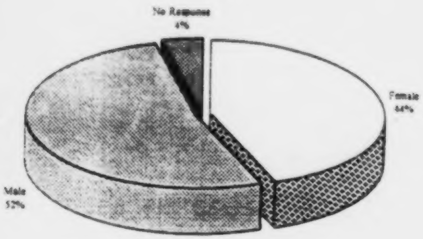
A PROFILE OF JOBLINK STUDENTS

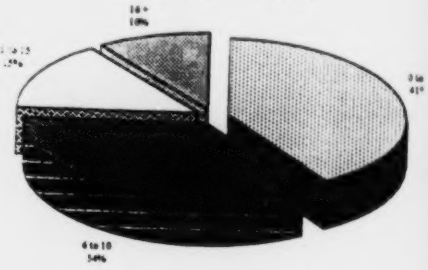
Gender



The average JobLink Lab student has put in 20+ hours of time studying at the Lab.

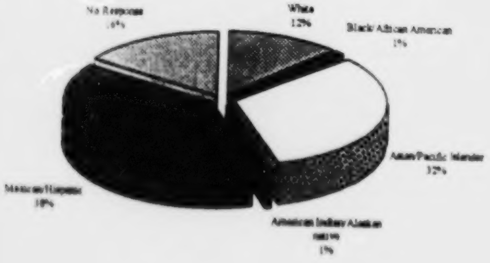
Hours Students by Company				
	Lab		Worksite	
Company	Students	Hours	Students	Hours
3M Dental	14	1,084	-	-
3M Surgical	3	15	48	695
3M-CDI	6	71	57	2,242
C&C	-	-	30	405
Deft	11	837	14	119
General Monitors	-	-	16	243
Hi Shear	-	-	21	198
Ingram Micro	3	34	53	1.242
M.C. Gill	-	-	15	113
Mallinckrodt	28	325	-	-
Master Halco	-	-	30	448
McGaw	123	2.802	183	4.001
Newport Corp.	8	692	29	383
Printronix	25	1.684	-	-
Rosemount	32	1,673	105	2,164
Steelcase	84	3,402	25	201
The O. C. Regist	-	-	14	198
Big Canyon C. C	17	179	-	-
Fiberite	49	[illegible]	-	-
RICOH	19	[illegible]	-	-
Waste Manageme	15	[illegible]	1	9
Other	54	1,762	27	119
No Response	89	[illegible]	10	183
Totals	580	18,838	678	12,958

Years on the Job
Mean = 7 yrs and 7 months
Range = 0 yrs. 0 mos. - 30 yrs. 3 mos.

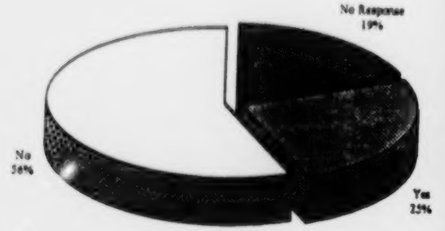


The average age of the JobLink Learners is 37.15
The average wage is $10.37/hour.

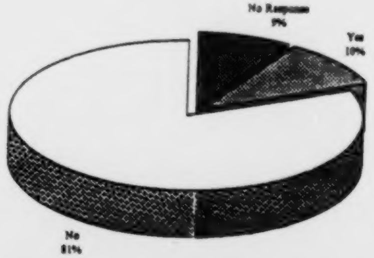
Race



English Spoken at Home



United States Born



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JOBLINK STUDENTS MAKE GREAT PROGRESS

Preliminary results from pre- and post-tests and self-assessments of JobLink students are showing good progress in reading and math skills improvement! Watch UPLINK for more information as Return-On-Investment factors are studied this year.

JobLink Lab

Pre- and post-tests of 82 JobLink Lab students show an average score improvement of over 2.0 grade level in reading and math with 30-100 hours of study in the JobLink Lab.

We are tracking a group of 36 JobLink students who have attended the Lab for 40, 100 and 200 hours. Both the students and their supervisors have filled out Return on Investment surveys and completed face to face or phone interviews. Supervisors indicated that students attending the lab were able to understand and follow directions better than other employees, and this saved both time and money! We will continue to follow this "core" group of students/employees to see what we can learn about the transfer of skills from lab to job.

Worksite Modules

In two companies where students received 27 hours of instruction using the JobLink worksite modules, standardized test scores improved an average of 0.5 and 0.43 grade levels.

Progress of JobLink students can be compared to the national norm for adult learners of 100 hours of study leading to 1.0 grade level improvement in reading and language scores.

STUDENTS HONORED AT AUGUST 1st CELEBRATION

Students who have attended the JobLink Labs were honored at a festive celebration at the Joblink Lab at Steelcase. Since JobLink opened over 500 students have passed through the doors. Everyone received a Participation Certificate, and those attending more than 30 hours earned special awards. JobLink digital clocks, JobLink tee shirts, Joblink desk clocks and books were prizes awarded to the m[illegible] studious. Mariaches entertained and [illegible] afternoon picnic supper was served. Thanks to the students and their employers for making this such a momentous occasion.

One in three job applicants who were tested for basic skills by major U.S. companies last year did not have the reading or math skills to perform the jobs they were seeking, according to an annual survey released in May by the American Management Association.

However, in manufacturing firms, the failure rate was much higher: 46%!

In projects like JobLink around the country, here are the top-ranked reasons employers participate in workplace literacy: to reduce errors and waste (60%), to support organizational innovations (54%), to improve skills of workers with limited English proficiency (49%), to accommodate changes in production or operations (47%), because of new technology demands (41%).

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ON THE ROAD WITH JOBLINK

If you call the JobLink office and someone is out of town, chances are we're making a presentation about JobLink. This is important, since dissemination is one of our objectives! Here are some of the presentations we made since last summer:

"The Search for Return On Investment" & "Demystifying Corporate Systems and Lingo" Presentations by Gloria Urone and Karen Klammer at the Workplace Learning Conference in Milwaukee, April/May, 1996

"Team Approach to Developing Multimedia Training Materials" Presentation by Sandy Savage and Karen Klammer, League for Innovation Workforce 2000 Conference, Orlando, Florida , February, 1996

"From Multimedia to Multi-Access Learning: The Evolution of a Distance Learning Training System" and *"Faculty-Team Design of Multimedia Training Materials for Team-Based Workplaces"*, Presentations by Karen Klammer, Chris Pitchess and Sandy Savage at California Community College Association for Occupational Education, San Francisco, April, 1996

"Workplace Literacy for Local Manufacturers" Presentation by Mary Ann Desmond, Gloria Urone, and Karen Klammer, at Orange County Business-Education Partnership Conference, South Coast Westin Hotel, April, 1996

"Employment Opportunities in Multimedia" Presentation by Tony Salas at ED>Net Executive Committee, Irvine Hyatt Hotel, May, 1996

"Workplace Literacy Partnership Programs" Karen Klammer, Panelist, 1995 Annual Adult Education Conference, Kansas City, November, 1995

"Team Approach to Developing Multimedia Literacy Training Materials", Presentation by Sandy Savage and Karen Klammer, Kansas City, November, 1995.

"Effective Workplace Literacy Models" Presentation by LaVergne Rosow, International Reading Association Conference, New Orleans, May, 1996

As a result of these presentations and other less formal ones, the list of people and colleges that are interested in JobLink and want to work with us continues to grow!

3M DENTAL ASSISTS EMPLOYEES IN BUYING COMPUTERS

In a special support program designed to launch its employees into the 21st century and support their personal efforts at continuous improvement, 3M Dental will to buy computer systems for their employees to use at homes. The employees repay this interest free loan with a monthly deduction from their paychecks over a three-year period. Ajay Myer, Plant Manager, proudly reports that over 40 employees have taken advantage of this offer to date.

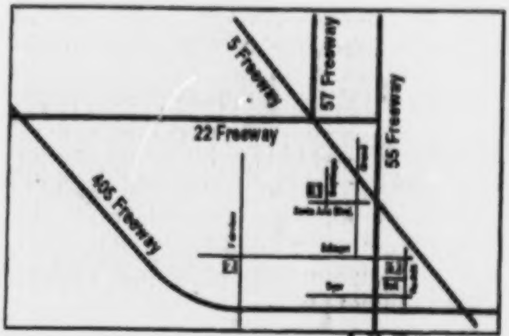
National Workplace Literacy Program Partners

JobLink was established for the Orange County manufacturing community, where workers need to develop essential and new skills to compete in a high-tech, global marketplace. It's the only project of its kind in California. Partners participating in the JobLink program, which is supported by a federal grant, include:

Coastline Community College
Deft
Irvine Valley College
Fiberite
Mallinckrodt Medical
M.C. Gill
McGaw
MD Pharmaceuticals
Newport Corporation
Polyclad Laminates
Printronix
Rancho Santiago Community College
Rosemount Analytical
Steelcase
3M Dental Products
3M Health Care - CDI
3M Surgical

COAST COMMUNITY COLLEGE DISTRICT
BOARD OF TRUSTEES
Sherry L. Baum
Paul G. Berger
Walter G. Howald
Nancy A. Pollard
Armando R. Ruiz
Scott D. McCarthy
CHANCELLOR
William M. Vega, Ed.D.

JobLink
1370 Adams Avenue
Costa Mesa, California 92626
PH (714) 258-0418 • FAX (714) 258-7304
E-MAIL joblink.intelenet.net
WEBSITE www.joblinkoc.org



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(located at Steelcase)
1201 Bell Avenue
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2 **Centennial Education Center**
(located within the regional park)
2900 W. Edinger (at Fairview)
Santa Ana, CA • (714) 564-5000

3 **Business & Industry Services Center**
Rancho Santiago College
901 E. Santa Ana Boulevard
Santa Ana, CA • (714) 564-5202

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Appendix I

Worksite Module Program Brochures
Winning @ Work

WINNING AT WORK features...

- **Cost effective classroom-based training**—*requires no high tech equipment to deliver*
- **Self-contained manual**—*reduces instructor/trainer preparation time*
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WINNING AT WORK

Gearing Up for a Competitive Future

Active Listening and Feedback is one of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high performance workplace, *Winning At Work* meets the learning needs of production workers who may have limited basic skills or literacy.

Active Listening and Feedback will help the worker learn the critical skills of appropriate and effective communication through personal experience, demonstration and practice. Workers assess their own skill level as well as get feedback from others and put together a personal development plan. Without competence in listening and giving feedback, employees cannot master more advanced communication skills.

Active Listening and Feedback is nine instructional hours comprised of six 1.5-hour sessions. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVES:

- Ask open-ended questions to assist in the listening process.
- Restate information to improve understanding and clarity.
- Understand and learn to overcome barriers to communication.
- Give feedback at the appropriate times.
- Give feedback that is useful for the receiver.
- Combine effective listening and feedback skills to improve communication.

LESSON CONTENTS:

1. **Assess Your Listening Style:** Understanding the benefits of being a good listener.
2. **It's OK to Ask Questions/Letting the Other Person Know You Understand:** Asking open-ended questions and restating messages in order to ensure clearer understanding.
3. **Overcome Barriers to Understanding:** Identifying barriers to effective listening, and describing and practicing specific techniques for overcoming barriers.
4. **Give Feedback:** Understanding the importance of giving feedback and describing the two most common purposes for giving feedback.
5. **Be Specific:** Building and maintaining relationships when giving and receiving feedback.
6. **Pull It All Together:** Applying feedback and listening skills effectively.

WINNING AT WORK programs:

Successful Learning Strategies:
Gearing Up for Training
Working Together:
Communicating on Teams
Making Suggestions:
Turning Ideas Into Action
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WINNING AT WORK

Gearing Up for a Competitive Future

Conflict Resolution is one of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high-performance workplace, *Winning At Work* meets the learning needs of production workers who may have limited basic skills or literacy.

Conflict Resolution focuses on helping the employee understand the value of good interpersonal relationships and how to facilitate a win-win team atmosphere in the workplace. Participants receive practical hints and learn strategies for handling workplace conflicts in constructive and creative ways. Workers and supervisors become partners in creating a new workplace community in which conflicts can be resolved, managed, and transformed to the benefit of the company and its employees.

Conflict Resolution is nine instructional hours comprised of six 1.5-hour sessions. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, master for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVES:

- Recognize types of conflict that most often arise in the workplace.
- Introduce a "Win-Win" mindset for dealing with conflicts.
- Improve skills required to speak and listen constructively.
- Learn how to have a "fair fight".
- Use specific steps to resolve conflict.
- Practice five strategies for heading off conflict before it starts.

LESSON CONTENTS:

1. **Identify Conflicts and Ways of Resolving Them in the Workplace**
2. **Develop a "Win-Win" Attitude**
3. **Tools for Conflict Resolution**
4. **How to have a Fair Fight**
5. **Manage Conflicts Within**
6. **Conflicts: Head 'em Off at the Pass**

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WINNING AT WORK

Gearing Up for a Competitive Future

Making Suggestions is one of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high-performance workplace, *Winning At Work* meets the learning needs of production workers who may have limited basic skills or literacy.

Making Suggestions encourages and prepares workers to share their suggestions and become active participants in formal and informal suggestion programs. Suggestions are the lifeblood of effective continuous improvement programs and the foundation of team work in successful companies. For workers with limited literacy or communication skills, making suggestions can be difficult. This program teaches workers to assess the value of their ideas, and present their suggestions convincingly.

Making Suggestions is nine instructional hours comprised of six 1.5-hour sessions. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVES:

- Identify opportunities for improvements and develop suggestion/idea.
- Gather relevant information to support suggestion ideas.
- Formulate and draft suggestions.
- Design clear and concise messages both verbally and in writing.
- Present suggestions to managers, supervisors, and/or co-workers.

LESSON CONTENTS:

1. **Look for Better Ways of Doing Things:** Identifying key tasks and results.
2. **Get the Information You Need:** Identifying general sources of information. Verifying the accuracy of information. Checking for usefulness.
3. **The Importance of Planning:** Identifying appropriate suggestion targets. Using supporting information.
4. **Design Clear and Concise Messages:** Using the right words. Identifying the appropriate audience. Designing simple sentences. Correcting basic errors.
5. **Put Ideas on Paper/Prepare Presentations:** Writing a proposal.
6. **Making Suggestions:** Presenting a suggestion and write a follow-up plan.

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WINNING AT WORK

Gearing Up for a Competitive Future

Solving Problems is one of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high-performance workplace, *Winning At Work* meets the learning needs of production workers who may have limited basic skills or literacy.

Solving Problems presents a six-step problem-solving model that includes: Brainstorming, Analyzing Cause and Effect (Fishbone Analysis), Ranking Priorities (Pareto Analysis), Identifying Potential Causes of a Problem, Designing a Corrective Action Plan, and Presenting Solutions. Participants learn the six steps on a simulated case study, and advance to a real life problem that is written by their supervisors in an accompanying supervisor session. Designed as a generic problem-solving program, this program compliments other problem-solving systems that are being used at the company.

Solving Problems is nine instructional hours comprised of six 1.5-hour sessions. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVES:

- Generate a wide variety of ideas to be used in problem-solving.
- Take ideas generated by brainstorming and categorize them using a Fishbone diagram.
- Rank defects by frequency to prioritize for correction.
- Decide which defect should be a priority and list probable causes.
- Design a plan that will correct the defects.
- Present corrective action plans.

LESSON CONTENTS:

1. **There's No Business Like Everybody's Business!**

2. **What's Going On Here? Brainstorming!**

3. **Something's Fishy: It's a Fishbone Diagram.**

4. **What Needs to be Fixed, And What are We Going to Do About It?**

5. **Let's Fix It! Designing a Corrective Action Plan and Presenting Solutions.**

6. **Welcome to the Real World! Apply Problem Solving Strategies to a Real Problem.**

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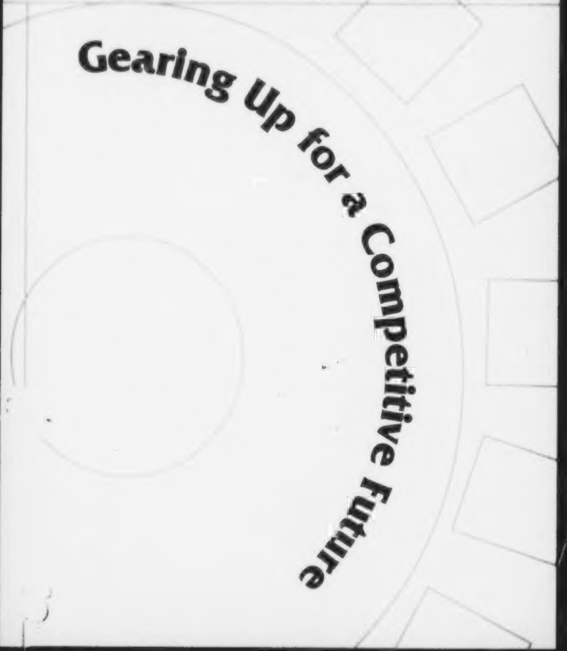

Gearing Up for a Competitive Future

Speaking Clearly is one of the ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high performance workplace, *Winning At Work* meets the learning needs of production workers, including those who may have limited basic skills or literacy.

Speaking Clearly provides a practical approach to improving pronunciation through a "buddy" system that gives students a chance for extended practice. Employing the popular instructional guide *Sounds Great*, by Beverly Beisbier, this training program helps users to identify realistic learning goals and support ongoing practice for continuous improvement. Although the program includes only six classroom sessions, it is extended over a period of two months, allowing time for practice between classes.

Speaking Clearly is nine instructional hours comprised of six 1.5-hour sessions. Students spend at least four additional lessons practicing with their buddies. The student/buddy system can be repeated to continue the program indefinitely.

This *Winning At Work* training manual includes instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide. This training manual includes a copy of *Sounds Great* which must be purchased for each student in the program at a price of approximately $21 for the book and $28 for a set of five optional accompanying tapes.

TRAINING OBJECTIVES:

- Analyze speaking patterns and set goals for specific improvements.
- Identify a conversational buddy and prepare a request for that person to participate as a tutor/mentor.
- Target speaking improvements in the five most common areas of pronunciation.
- Participate in daily personal practice sessions and weekly interactive practice sessions to improve pronunciation.
- Evaluate progress towards personal improvement goals.

LESSON CONTENTS:

1. **Get Started:** Setting goals. Working on multi-syllable patterns.
2. **Sentence Sense:** Working on sentence stress, unstress and rhythm. Identifying a buddy to help with speaking practice.
3. **Intonation:** Using intonation to improve the meaning of speech. Orientation for buddies.
4. **Progress Check:** Assessing self progress and getting feedback from buddies. Working on rhythm.
5. **Difficult Vowel and Consonant Sounds:** Practicing the "big payback" items.
6. **Where Have You Been and Where are You Going?** Doing assessments and setting goals and plans for continued work.

WINNING AT WORK programs:

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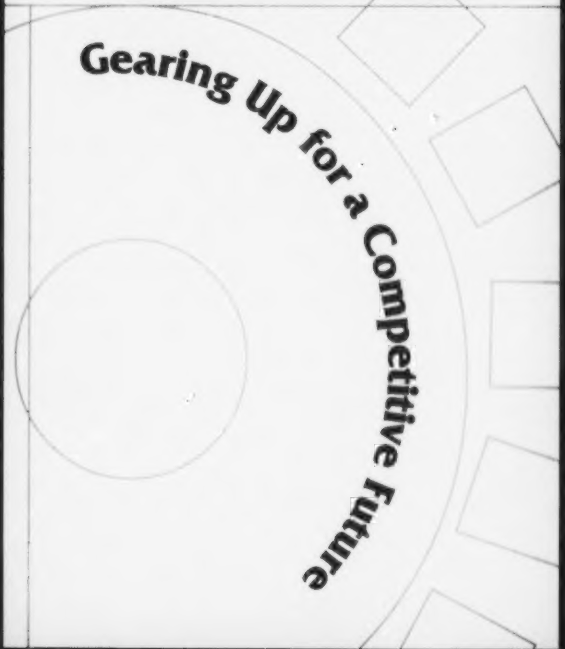

Gearing Up for a Competitive Future

Pre-Statistical Process Control is one of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high performance workplace, *Winning At Work* meets the learning needs of production workers who may have limited basic skills or literacy.

Pre-Statistical Process Control (SPC) prepares workers to successfully participate in continuous process improvement initiatives by providing an understanding of key SPC concepts and how they relate to the quality worksite. Basic math concepts and principles are introduced to prepare the worker who may have limited numeracy skills for implementing SPC concepts.

Pre-Statistical Process Control is nine instructional hours comprised of six 1.5-hour sessions. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVE:

- Understand the basic concepts of SPC.
- Determine the relationship between decimal and fractional numbers.
- Analyze bar graphs and line graphs.
- Interpret and record measured data.
- Produce bar graphs and line graphs.
- Understand basic statistical terminology.

LESSON CONTENTS:

1. **Do We Really Need SPC?**
2. **Decimals and Percents**
3. **Reading and Understanding Charts and Graphs**
4. **Vocabulary for Statistics**
5. **Control Charts**
6. **Putting It All Together**

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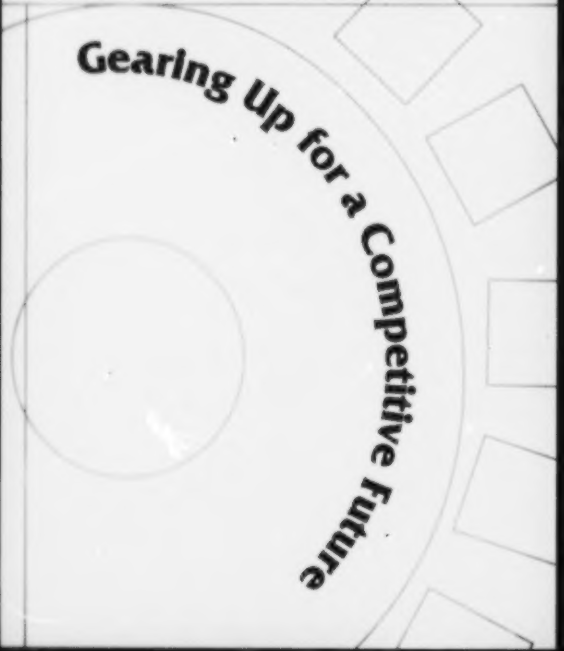

Gearing Up for a Competitive Future

Working Together is one of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high-performance workplace, *Winning At Work* meets the learning needs of production workers who may have limited basic skills or literacy.

Working Together increases employee productivity and performance by improving interpersonal skills on the job. Performance on work teams improves as participants practice key team behaviors. Program activities cast the worker in a series of team situations, offer an opportunity to rate the effectiveness of teams, and strategize personal behaviors to improve those teams.

Working Together is nine instructional hours comprised of six 1.5-hour sessions. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVES:

- Identify roles and responsibilities on workplace teams.
- Identify and practice effective team behaviors.
- Increase verbal contributions during team meetings.
- Practice active listening skills.
- Recognize importance of sending positive non-verbal messages.

LESSON CONTENTS:

1. **What's My Line?** Discovering and defining your role on teams at work.
2. **Teambuilding:** Clarifying team roles and responsibilities.
3. **Defining Roles on the Workplace Team:** Understanding the function of the team facilitator, recorder, timekeeper, and cheerleader.
4. **Tell Me a Story - Active Listening Lesson:** Improving listening skills and relaying information to co-workers.
5. **Body Language - Send Positive Messages:** Learning to read and send positive body signals.
6. **Pass the Picture - Effective Team Work:** Using new skills to create a team product.

WINNING AT WORK programs:

Successful Learning Strategies:
Gearing Up for Training
Active Listening and Feedback:
Communicating Effectively
Making Suggestions:
Turning Ideas Into Action
Resolving Conflicts:
Getting Along With Co-Workers
English as a Second Language:
Improving Basic Skills
Speaking Clearly:
Improving Pronunciation
Math Basics:
Building a Foundation
Pre-Statistical Process Control:
Making Numbers Count!
Solving Problems:
Finding Solutions that Work

HOW TO ORDER *WINNING AT WORK* PROGRAMS: Individual program price is $95 plus tax and shipping. ESL: Improving Basic Skills program is expandable to 36 hours of training and priced separately @ $175. ***To place your order or for further information on other products and services, please contact us at:***

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c/o Coast Community College District
1370 Adams Ave., Costa Mesa, CA 92626
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Fax: 714-258-7304
joblink@intelenet.net

WINNING AT WORK features...

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- **Self-contained manual**—*reduces instructor/trainer preparation time*
- **Reproducible student handouts**—*unlimited permission to copy*
- **Field-tested training programs**—*ensures quality and effectiveness of content*
- **Variety of instructional design**—*benefits learners by using different learning and reinforcing strategies*
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JobLink

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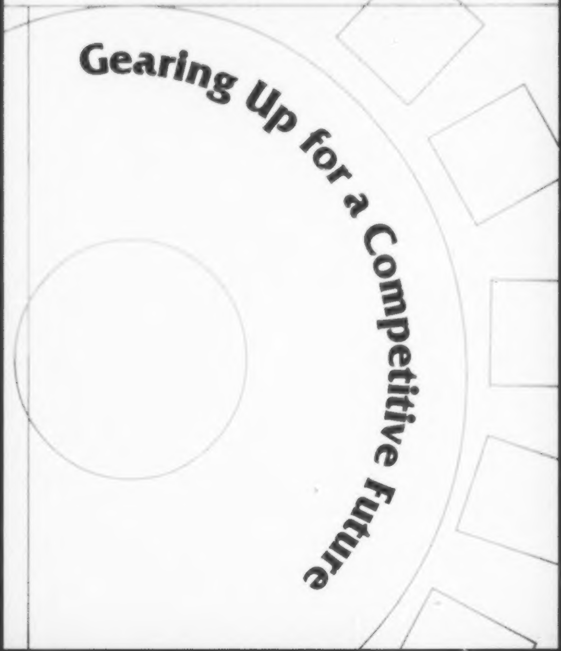

Gearing Up for a Competitive Future

Successful Learning Strategies is the first of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high performance workplace, *Winning At Work* meets the learning needs of production workers, including those who may have limited basic skills or literacy.

Successful Learning Strategies introduces participants to strategies, shortcuts, and learning aids that make future training more effective. It is the foundation for other *Winning At Work* programs or can be used to improve worker success in any future training. The strategies for success are taught in a highly interactive setting where participants practice new strategies and then try them out back at work.

Successful Learning Strategies is nine instructional hours comprised of six 1.5-hour sessions. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVES:

- Recognize personal learning styles.
- Develop a glossary of workplace words and phrases.
- Formulate personal Return On Investment (ROI).
- Report job-related information.
- Use estimating to analyze data.
- Locate job-related worksite information.
- Discuss the rewards and importance of a personal, life-long learning plan.

LESSON CONTENTS:

1. **What's My Style?:** Recognizing personal learning modes or styles.

2. **Better Reading to Improve Your Life:** Improving reading by using simple strategies.

3. **Word Power:** Starting a personal glossary to help read, write and speak better.

4. **It's All in Your Hand:** Practicing a simple writing method that is easy to remember and helpful in documenting information.

5. **A Scavenger Hunt:** Learning to locate the answers to workplace questions.

6. **Troubleshooting:** Discovering effective ways to find and correct errors.

WINNING AT WORK programs:

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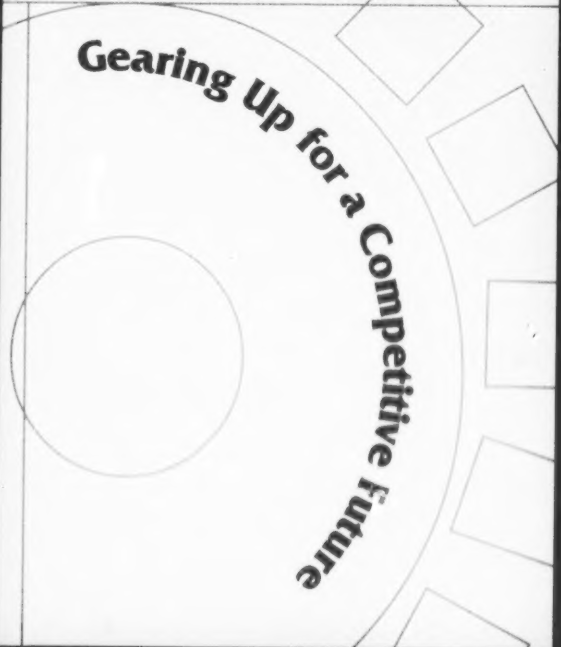

Gearing Up for a Competitive Future

Math Basics is one of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high performance workplace, *Winning At Work* meets the learning needs of production workers who may have limited basic skills or literacy.

Math Basics is an introduction to basic math skills that are frequently used in the workplace. Workers have the opportunity to use real life situations as they learn such skills as estimating and rounding, using fractions and decimals, and converting from English to Metric system. Math is a subject that many workers fear and misunderstand, yet in the workplace it is often critical to producing a high-quality product.

Math Basics is nine instructional hours comprised of six 1.5-hour sessions. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVES:

- Estimate and round numbers accurately.
- Understand and be able to convert numbers from English to Metric System.
- Add, subtract, multiply, and divide fractions.
- Add, subtract, multiply, and divide decimals.
- Distinguish between rates, ratios and proportions.
- Understand how percents are used in the work world.
- Use a calculator to solve any type of a problem involving percents, decimals or fractions.

LESSON CONTENTS:

1. **Estimating and Rounding**
2. **The English and Metric System**
3. **Discovering Fractions**
4. **Discovering Decimals**
5. **Rates, Ratios, Proportions, and Percents**
6. **The Calculator**

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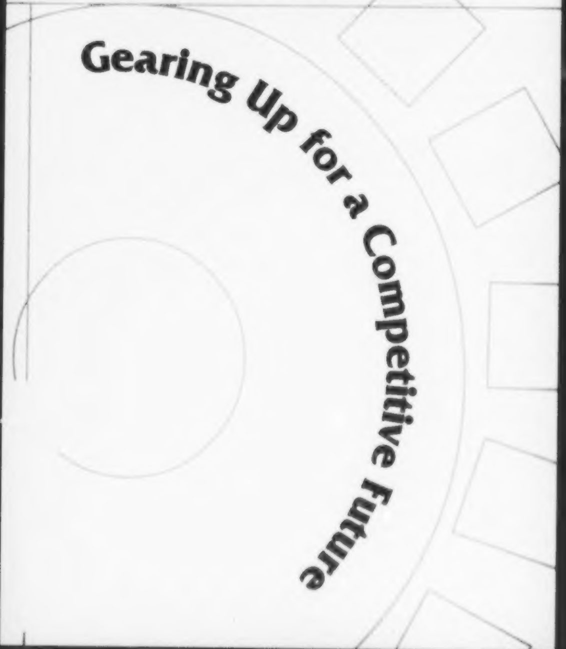
Gearing Up for a Competitive Future

English as a Second Language is one of ten training programs comprising *Winning At Work*. Designed to address those key skills necessary in today's high performance workplace, *Winning At Work* meets the learning needs of production workers who may have limited basic skills or literacy.

English as a Second Language (ESL) offers a work-centered approach to ESL training. ESL teaches English using work-related topics and offers many opportunities to practice skills with co-workers in a safe classroom setting.

English as a Second Language is 36 instructional hours and can be tailored to meet individual company's needs by choosing the topics that provide needed information and meet time limitations. Training manual is approximately 100 pages.

All *Winning At Work* training manuals include instructor guide, masters for transparencies and student hand-outs, pre- and post-tests, and supervisors' training guide.

TRAINING OBJECTIVES:

- Find and use the right information.
- Identify how to communicate and cooperate effectively in a group.
- Report job-related information.
- Locate the main idea in a paragraph.
- Find important facts or details.
- Understand sequence of events.
- Understand the importance of completely reading directions before beginning a task.
- Understand and properly use ordering words.
- Accurately recount step-by-step directions.
- Use expressions to help request, give and clarify directions.
- Use chronological order to write step-by-step directions.
- Utilize correct prepositions while following directions.
- Fill out forms correctly.
- Measure Return On Investment (ROI) for training.

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WINNING AT WORK

Gearing Up for a Competitive Future

WINNING AT WORK
Ten Training Programs That Will Change Your Company

Winning At Work creates a "win-win" training solution for manufacturing companies and their workers. Geared toward companies that operate in a teamwork environment, *Winning At Work* trains workers in the fundamental skills that improve their self-esteem and their value to the company.

Winning At Work participants learn new skills on two levels:

- Basic skills that improve the worker's ability to benefit from workforce training, and
- Key skills necessary in the high performance, teamwork organization.

This holistic approach to training succeeds where other training programs for production workers have failed. *Winning at Work* is designed for workers who may have limited basic skills or literacy needs or who are non-native speakers of English. By addressing training at the appropriate level and focusing on the unique needs of these adult learners, *Winning At Work* maximizes the benefit of valuable time spent in training.

In conjunction with its partner companies, JobLink developed and field-tested *Winning At Work* as a set of ten training programs that can be delivered as an integrated series, or grouped to address specific targeted needs.

Winning At Work can be used side-by-side with similar training programs that are aimed at managers or supervisory level employees. It can also be used as a preparation for training programs at a more sophisticated level, or it can be used on its own as a comprehensive training approach.

Because adult learners display a wide range of skill gaps, and have developed highly sophisticated ways of compensating for these limitations, it is important that training programs create a safe learning environment that builds on success. It is in this type of safe environment that *Winning At Work* produces a double benefit: improving the worker's basic skills AND teaching the key skills and behaviors required in the high performance workplace.

The content of each program is detailed in a comprehensive training manual, which includes an instructor guide, masters for transparencies and student handouts, materials lists, pre- and post-tests, and a supervisor's training guide for companion supervisor sessions. Unlimited reproduction rights are included with each program manual.

Target population: workers in high performance manufacturing companies who have limited basic skills or literacy, or who do not speak English as their native language.

WINNING AT WORK programs:

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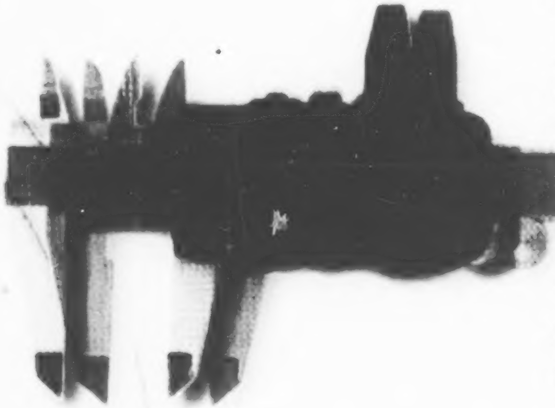
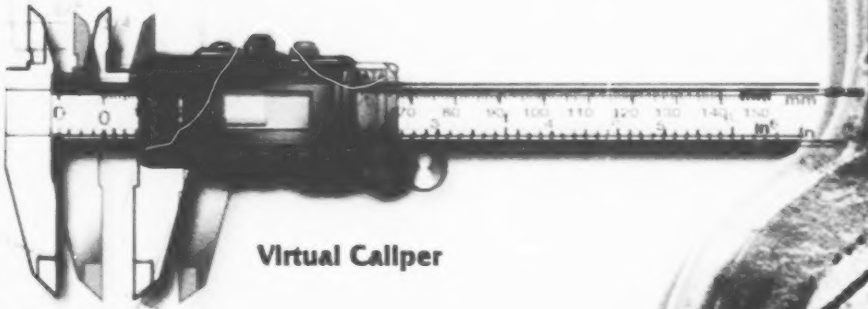
Using the Caliper

A Just-In-Time Training Program

Using the Caliper is a CD-ROM training program that prepares manufacturing workers to use this important measurement tool. Individualized and self-paced, this CD-ROM was designed for use by all levels of production workers, including those who have limited basic skills or literacy. Employees or students can complete this program in 30-90 minutes and be ready for a successful hands-on experience.





Virtual Caliper

Features of This Program:

- **Interactive-** Provides hands-on learning experience that addresses workers' different learning styles
- **Flexible-** CD-ROM format allows training to be delivered at independent work stations at key locations on the production floor, in the training room, or in the classroom
- **Consistent-** Regardless of the amount of time needed by the employee to complete the training, the standard outcome will be reached
- **Certification-** Pre- and post-test provides verification that student has reached an 80% proficiency rate

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About this Tool
background on the history of the caliper and a brief description of the dial, vernier and digital calipers with labels of all the features

Using This Tool
includes step-by-step directions for inside, outside, step and depth measurements

When to Use This Tool
guidelines for determining when the caliper is the correct tool for the job

Safety & Handling
includes two videotaped segments of caliper users at Steelcase discussing the types of issues that are important to consider when using the tool on a daily basis

Reducing the Error Factor
covers precision, calibration, verification, manipulation , work piece geometry, care of the tool, removing dirt or burrs, and the parallax effect

Try It! (A Virtual Caliper)
a fully functional caliper on the screen gives students practice operating the various features of the tool and performing the operations in the correct order

JobLink

Preparing Today's Workers For Tomorrow's Jobs

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Metrology: Using a Digital Caliper

- About this Tool
- Using this Tool
- When to Use this Tool
- Safety and Handling
- Reducing the Error Factor
- Try It
- Measurement Quiz